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# AMERICAN BUILDER

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## Make Every House You Build a Better House

THE builder who keeps pace with the progress in home building, or any other kind of building, for that matter, is the successful builder. As in any other business or profession, the builder who does not advance goes back. There is no middle ground.

The place that the AMERICAN BUILDER occupies in the building industry is to seek out and give to its readers the benefits of the experiences of builders—successful builders. The homes illustrated and described in this Home Building Number of the AMERICAN BUILDER are homes that have been developed by the country's best architects and the country's most progressive builders. They embody features that were unthought of a few years ago, but they are features that will add to the reputation of every builder who seeks to give his clients the best that architectural genius has devised.

Make every home you build a better home. Make it the kind of home that you are proud of—one that will add to your reputation. Put into it the best of workmanship, and the kind of materials that you would use if you were building for yourself. This sort of home is the kind that makes others want to build. It is constructive work in more ways than one. It creates

a desire for a home in many a hesitant prospect; and makes that prospect want you to do the job.



## Creating a Demand for Homes

RECENTLY a builder in an Ohio city wrote a letter to the business men of his town on the subject of "Why I Need the Chamber of Commerce." Here is one idea he expressed:

"I want tangible results in this lifetime, even if I am building for future generations; and I realize that it takes co-operation and concentration to obtain them. I realize that whatever effort I may give toward the betterment and growth of the community cannot all accrue to my individual benefit. But if the city grows and I cannot get my share of the new business it is my fault."

That is the spirit that makes cities grow; and in growing cities there is a demand for homes and buildings of all kinds. The contractor, material man, lumber dealer and hardware dealer all are interested in the growth of the cities in which they live. Growth means more building, and more building means more business.

Every movement that will bring about the growth of a city is a movement that deserves the whole-hearted backing of members of the building industry.

## Emphasizing the Value of Building a Home

COMFORT AND CONVENIENCE, AND ECONOMIC AND SOCIAL ADVANTAGES OUTWEIGH ALL OTHER ARGUMENTS IN PROMOTING HOME BUILDING

**T**HERE has been too much emphasis laid on the cost of building in the efforts to promote activity in the building industry. Practically everyone who has discussed the subject of "build now" has dwelt on the cost of materials and labor and then has argued why this should be ignored. Undoubtedly much harm has been done.

The winning course is exactly the opposite course. It is not a matter of what it costs to build, but of what the builder will get in comfort, satisfaction and convenience for his investment. Emphasis laid on these points will do more to promote home building than anything else.

This is the method that has been used and advocated for many years by the AMERICAN BUILDER. Make a person want to build and he will build—the cost does not figure so prominently.

This idea has been worked out in a convincing way by our cartoonist. Here are shown in a graphic style by contrast the comforts that the home owner gets from his home and the discomforts that are the return a renter gets from the money he pays to the landlord.

### Home Owning as an Investment

In the first place it costs the man who builds a home to live in no more to construct that home than it does the man who builds for investment. The man who rents pays a fair interest on the investment, and an additional sum for the months that the house is liable to be vacant. He pays the taxes, the insurance premium and for the repairs and redecoration of the house, the latter being a greater expense in a rented house than in one occupied by the owner. No one is as careful of another person's property as he is of his own. And coupled with the expenses enumerated is the added cost of either the owner or agent caring for the property—that is seeking tenants, collecting the rent and doing the other things that are necessary in managing rental property.

The advantages of building a home to be occupied by the owner are many and obvious. In the first place the home owner has a home located where he wants it; in a neighborhood in which other people of his "class" live.

### Building a Home Appeals to the Wise Man

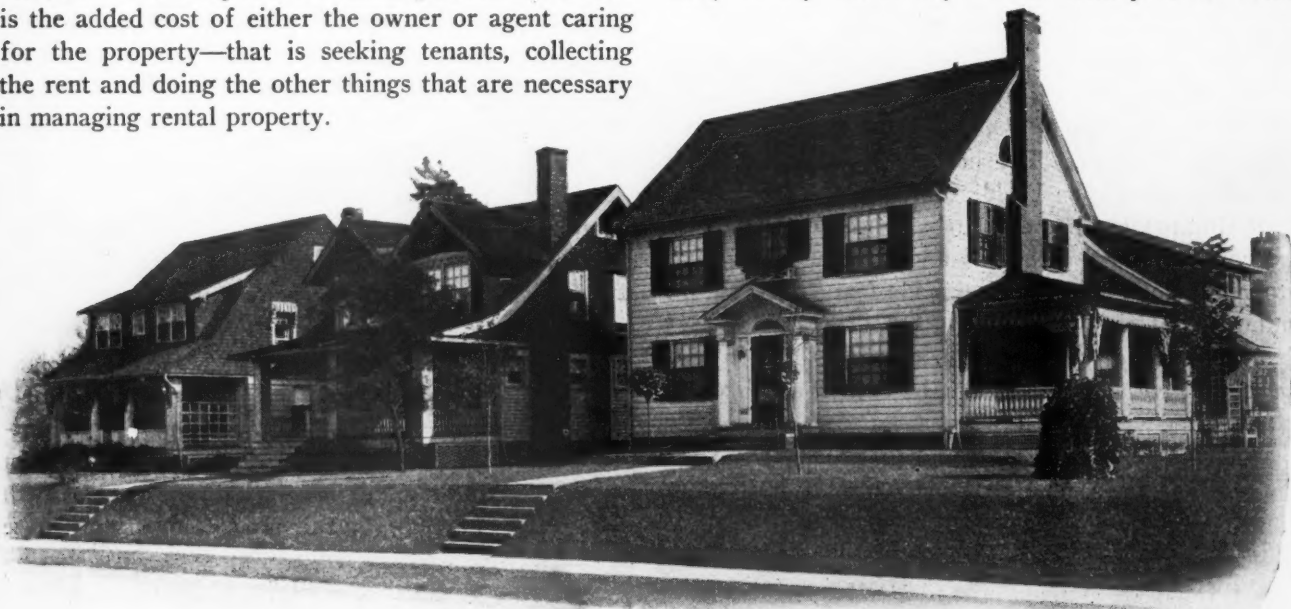
Stability is a great business asset. Couple stability and ability and the possessor of these two virtues will rise high and fast.

Home owning makes for stability. Employers recognize this fact—they had it forcibly impressed on them during the war when they were bidding against one another for labor and labor was as mobile as a tumble weed. It shifted with a rapidity that was amazing. Hence the many industrial housing projects that were started both during and since the war.

From the social standpoint the substantial people of a community recognize the home owner as a man worth while. He and his family are accepted, where the man who rents is giving only a passing thought. He is invited to become a member of this club, and that church. His children make friends that are lifelong. His wife has that social life that every woman wants and needs.

All of these advantages are worth making a sacrifice for, if such a sacrifice is necessary. They are things that the money put into a home buys for the home owner.

Getting these facts to prospective builders—persons who are able to build; persons who have discussed building, and persons who have just about decided to build will do more to promote home building than all the arguments as to why prices are as they are and likely to stay where they are for some years to come.



The Street of Homes, Owned by the Occupants, Always Is Attractive Because the Home Owner Takes a Justifiable Pride in Its Appearance.



# WHICH IS YOUR MONEY GETTING FOR YOU?



A make-shift porch, or-the real thing



Heat when you want it, or-no heat when you need it.

## Old English Six-Room Stucco House

THIS DESIGN COMBINES THE BEAUTY OF ANCIENT ARCHITECTURE WITH THE MODERN ROOM ARRANGEMENT AND CONSTRUCTION

**D**ESIGNS for modern homes are the results of the architectural experience of this and past generations. From the houses that were designed in various periods the best has been selected and the balance discarded. Thus does the present-day home sacrifice neither beauty to convenience nor convenience to beauty.

An example of this process of architectural selection is shown in the accompanying design. Here has been combined the exterior beauty of the Old English style of architecture with modern room arrangement and modern construction methods and materials.

This Old English six-room stucco house is what might be termed a "beauty." Its exterior appearance is out-of-the-ordinary, while the room arrangement and the conveniences installed in them are of the type that appeal to the modern home builder. The lines are graceful, and yet no space is sacrificed to get the effect; the rooms are planned to give the home owner all the comforts of a much larger house.

### A Fine, But Inexpensive House

The dimensions of the house are 27 feet by 36 feet, which is a size that will permit of plenty of lawn and garden room on an ordinary-sized lot, and which is

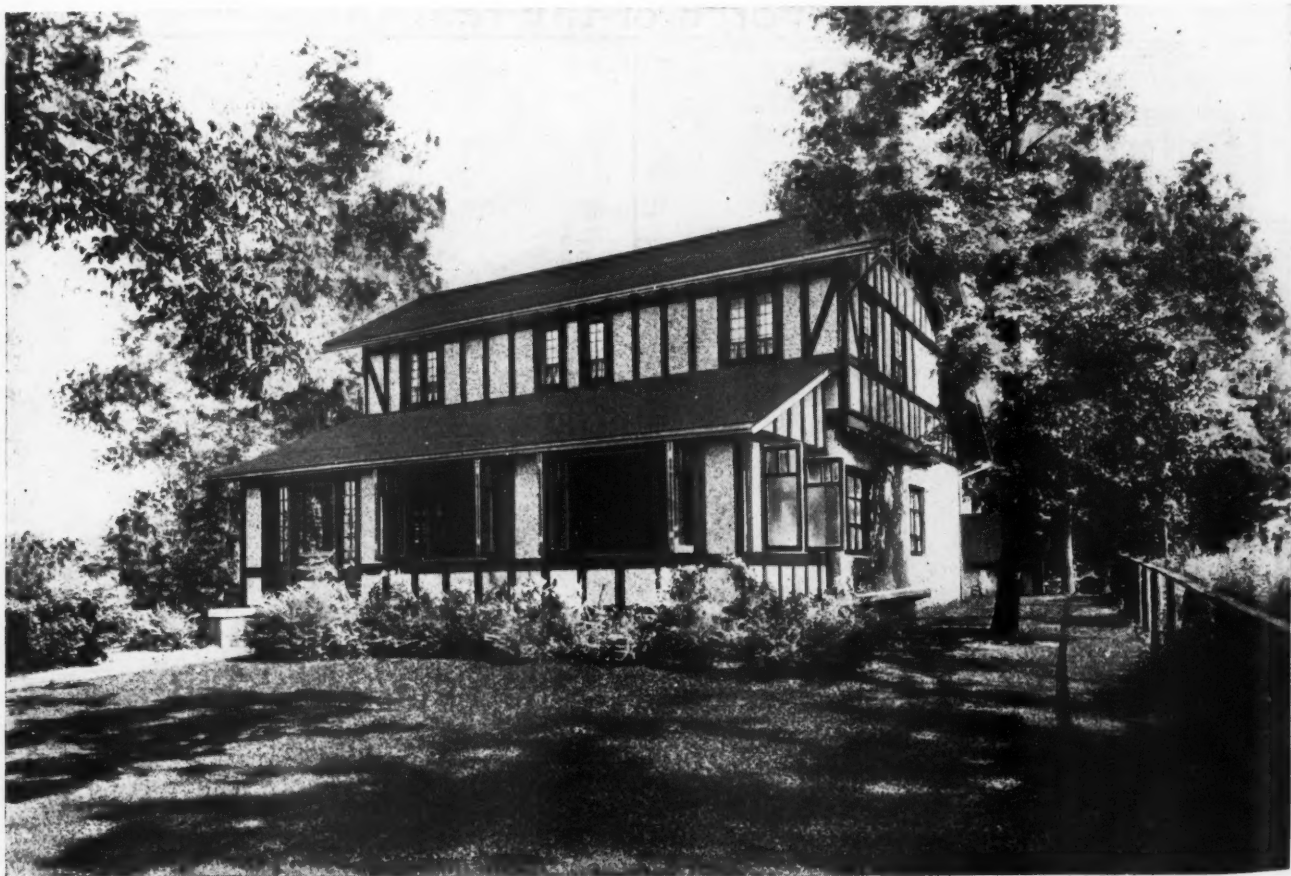
inexpensive to build. The porch and living porch across the front of the house are features that everybody wants in a home, while the large living room, with a fireplace, makes this house most desirable.

The living room is 22 feet, 6 inches, by 11 feet, which is a spacious room, but the living porch, with its casement windows and accordion doors, add 16 feet, 6 inches, to its width, and 9 feet, 6 inches, to its depth. Glass doors connect the dining room, 12 feet, 6 inches, by 14 feet, with the living room on one side, and the kitchen, 13 by 8 feet, is reached thru a short hall leading out of the other end of the living room.

### A Most Convenient Kitchen

The conveniences that are planned for the kitchen are features of this design. The work table underneath the window, the wall cases and sink alongside it, with a swinging seat so that there is a place to sit down while work is being done at either the table or the sink, the ironing board attached to the door of the closet, so that it can be let down into the kitchen, with the electric socket so placed that an electric iron can be used handily, all are unusual.

Upstairs there are three good sized bedrooms, all with two exposures, and the bath room. Every room



Here is an Exceptional Old English Six-Room Stucco House. The Living Porch, with Casement Windows, the Monitor-Like Roof and the General Effect Give It a Fine Exterior Appearance. The Dimensions Are 27 by 36 Feet, which Permits Plenty of Lawn and Garden Space in an Ordinarily-Sized Lot. The Large Living Room, 22 Feet 6 Inches by 11 Feet, the Light and Airy Dining Room, the Convenient Kitchen and the Three Bedrooms, Make this Design One that Will Appeal to the Home Builder.



has a closet, while there is a fourth one in the hall.

The casement windows, some hung in pairs and hinged and others singly, are features of this design that add to the appearance of the house and to the comfort of the occupants.

The perspective gives an excellent idea of the exterior of the house, while the floor plans show the room arrangement and the many convenient built-in features of the house.

The house is of standard wood construction, with a stuccoed exterior over either wood or wire lath or expanded metal. The longitudinal cross-section shows the methods of framing and the materials used.

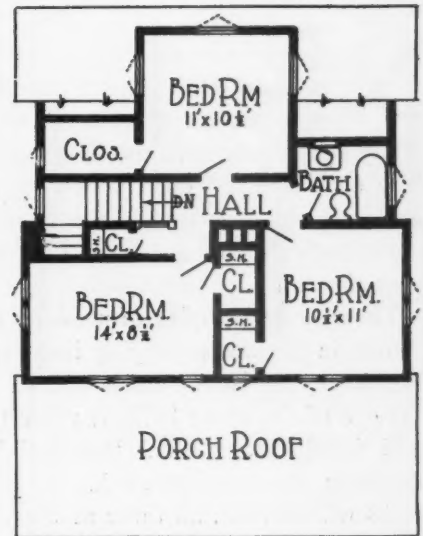
Too much in favor of this design cannot be said. It is, indeed, a "beauty."

Such houses as this give to the owner the utmost in satisfaction, and add to the reputation of the builder. Just at this time when there are thousands of homes being built, a design that embodies the many good features that are shown in this one will be of great

assistance to both builder and material dealer in crystalizing the desire for a home in their prospects into a sale. It is not a large house, but it is an exceptionally modern and convenient home of great exterior beauty and attractiveness.

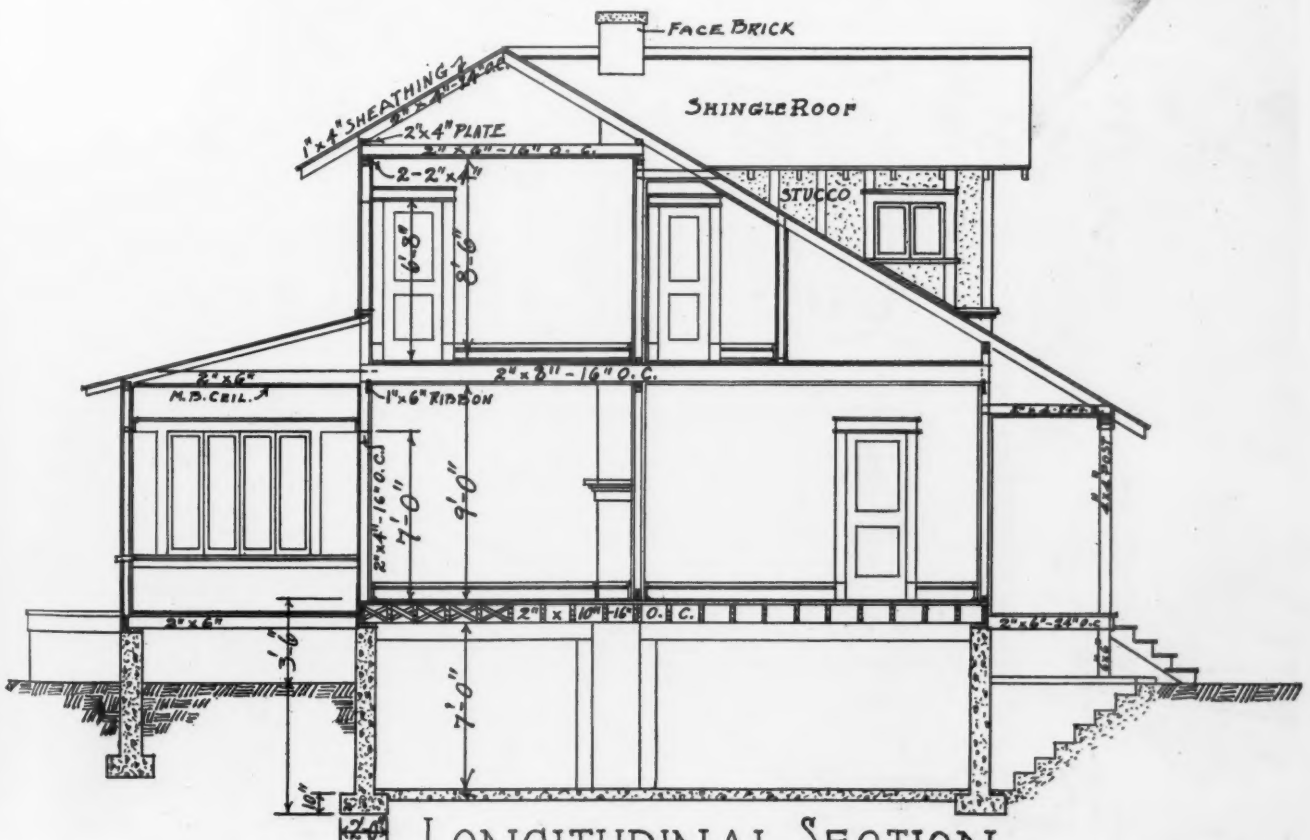


FIRST FLOOR PLAN



SECOND FLOOR PLAN

Floor Plans of the Old English Stucco House. Note the Sizes of the Living Porch and Living Room, the Convenience of the Kitchen and the Arrangement of the Bedrooms and Bath.



LONGITUDINAL SECTION

Longitudinal Cross-Section of the Old English Six-Room Stucco House, the Perspective of which Is Shown in the Preceding Page.

## Health, Happiness and Comfort Abound in the Living Porch

PRACTICALLY EVERY MODERN HOME HAS AN ENCLOSED PORCH—THAT IS, A SUNNY AND AIRY ROOM—AND IS THE MOST POPULAR PLACE IN THE HOUSE

**N**O feature that architects have designed for the modern home has received a more enthusiastic welcome or has been embodied in so many home designs as the living porch, or sun parlor. The old-fashioned open porch, or veranda, has been enclosed, and is glazed in the winter and screened in the summer, giving the home owner the use of it the year around.

Three fine examples of modern living porches are shown in the accompanying illustration and those on the following page. Each one of these will delight the eye of the home builder, while to contractors they will furnish suggestions that will be found valuable in home construction work.

As will be seen, all three of these porches are fitted with casement windows, which, when open, turn the enclosed room into an airy porch. When the windows are closed the rooms are light and sunny and furnish a most popular place for the family to sit,

either in the daytime or at night.

These illustrations have the added value of being home-building inspirations. They give the ideas of health, happiness and comfort, three things that home-owning brings.

By building porches with solid walls it always is possible to add a sleeping porch on the second floor. This also is a feature of most modern homes. When the necessary wall space is available, a space-saving bed can be installed in the living porch, while a similar bed permits the sleeping porch to become a sewing or upstairs sitting room in the daytime.

The builder will be particularly interested in the illustration at the bottom of this page. Here is an excellent example of a living porch of brick and stucco construction. The roof treatment also is shown, as are the casement windows. To the prospective builder, the happiness reflected in the faces of the woman and child will create a desire for just such a home for his family.



Health, Happiness and Comfort All Come to the Family of the Man Who Owns His Home. This Interesting Picture Shows the Exterior of a Most Attractive Sun Parlor of a Brick and Stucco Modern Home. Note the Pergola Effect in the Roof and the Casement Windows which Permit Plenty of Air. This Is an Excellent Example of Modern Home Construction.





The Living Porch, or Sun Parlor, is One of the Fine Features of the Modern Home. The Abundance of Air and Sunshine the Windows Admit Makes this the Most Used Room in the House or Apartment. Here Are Shown Two Excellent Examples of Living Porches.





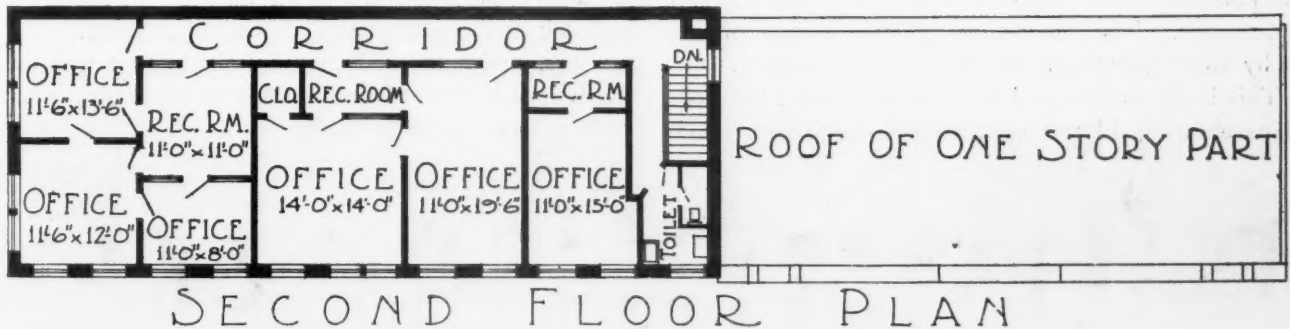
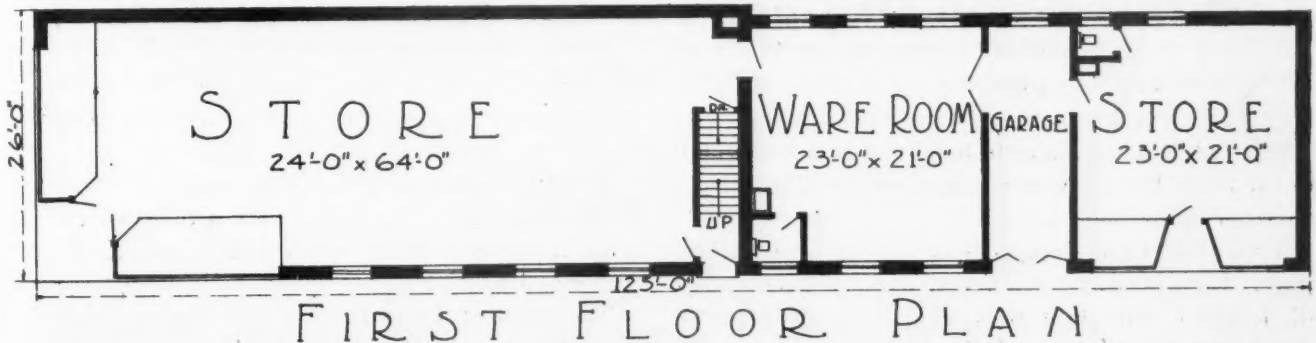
## Design for Corner Store and Office Building of Brick and Terra Cotta

THE accompanying perspective and floor plans of a brick corner store and office building show the type of business building that is popular in the smaller cities and towns. The first floor gives the owner an up-to-date place for his business, while the offices on the second floor make the building a revenue producer.

The dimensions of this building are 26 by 125 feet. The two-story part is 66 feet deep, the balance being devoted to a one-story ware room and a smaller store. The exterior of the building is made attractive by the

use of terra cotta for trim. The store room is 24 by 64 feet; the ware room 23 by 21 feet and the rear store 23 by 21 feet. Between the ware room and rear store is space for a garage. The second floor contains six offices, three arranged in a suite with a reception room, and three single offices.

The large amount of window display room, on both streets and the space-saving corner entrance to the store are features of this design. The building is of standard brick construction, with 12-inch walls, the surface course being of face brick.



Perspective of Corner Store and Office Building, 26 by 125 Feet, Floor Plans for which Are Shown Above.



# Model Home Designs

## Four Good Designs for the Home Builders

MODEST HOMES OF COMPARATIVELY SMALL COST ARE IN DEMAND.

ON this and the following pages are shown four designs for modern homes that comparatively are not expensive to build and that will appeal to the home builder who wants a comfortable, attractive and up-to-date house.

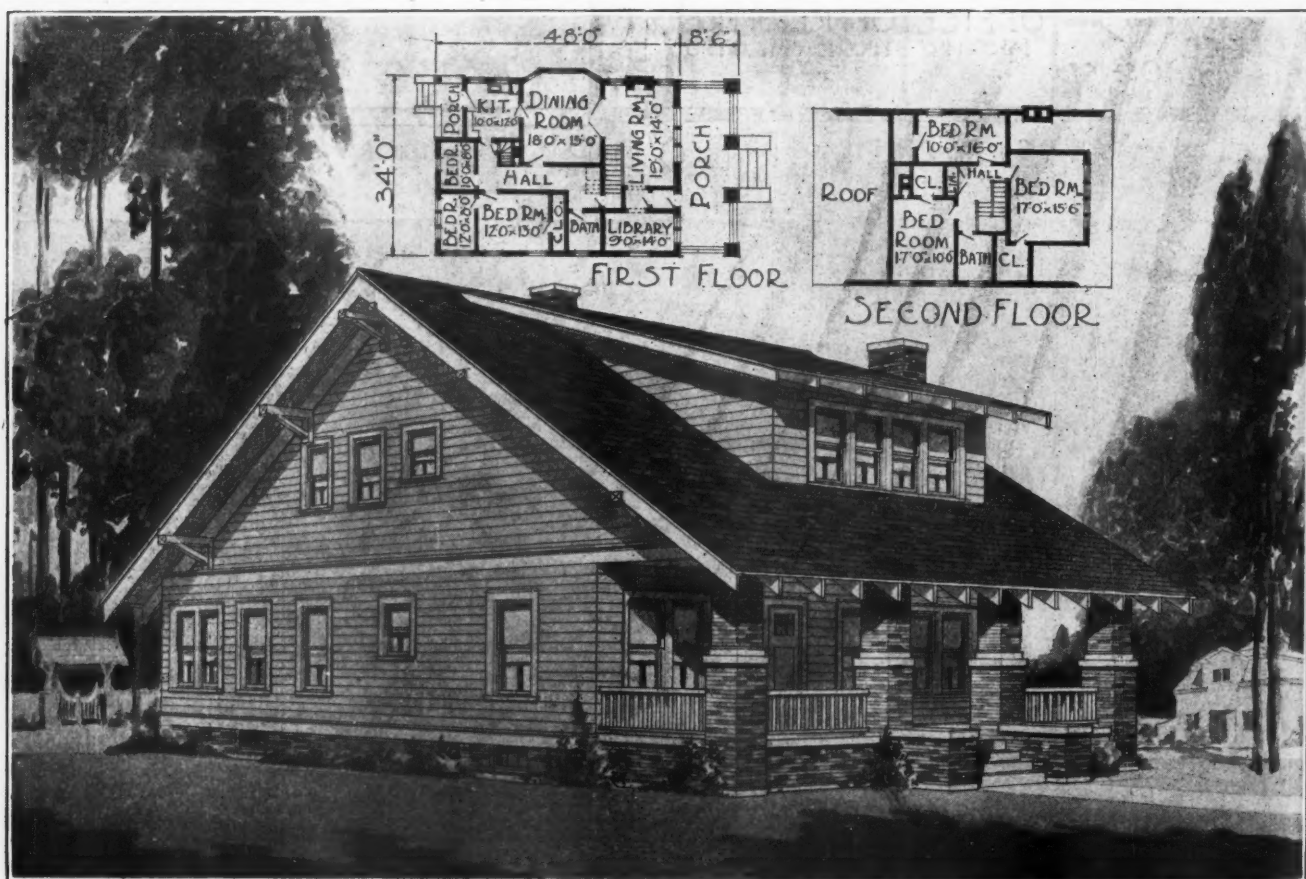
Typical of these designs is the one shown on this page. Here is an attractive story and a half bungalow of frame construction with a brick pillared porch. The long sweep of the roof, the dormer projection and the porch combine to give it a most pleasing exterior appearance. The dimensions of this bungalow are 34 by 48 feet, exclusive of the porch projections.

This house is designed for a large family, the floor plans showing 10 rooms, a large living room, good-

sized dining room, library, kitchen and three bedrooms and bathroom on the first floor and three bedrooms on the second floor.

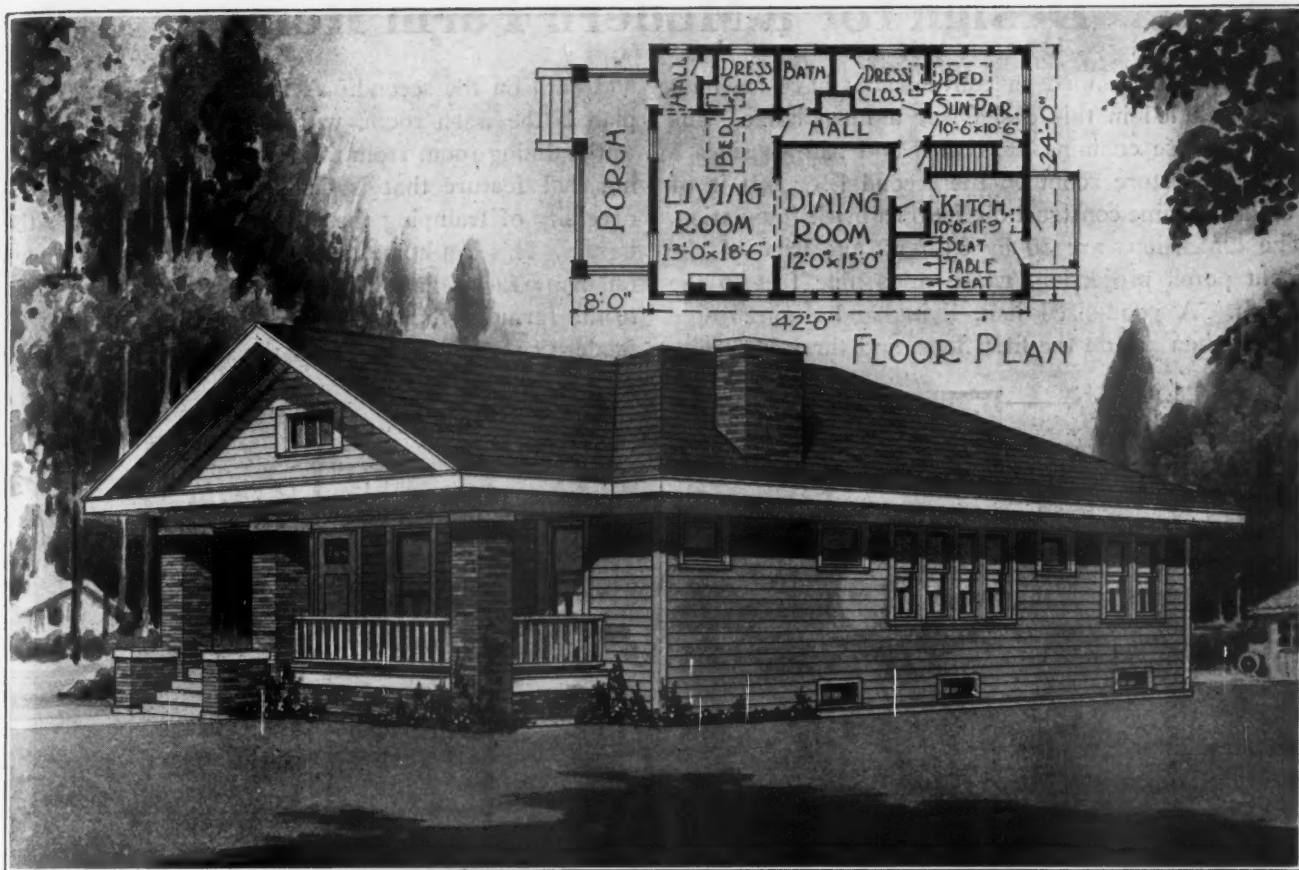
The other designs show a wide range of homes, all of which are excellent. There are a two-story, eight-room house with brick porch and a good-sized sun-parlor and smaller homes contained in the designs.

The ideas of home builders as to what kind of a house they want and can afford to erect are varied, but the designs shown in this department all are good and will suit the requirements of many prospects. Contractors, architects and material dealers all will find the homes shown of great value in discussing plans with prospective home builders.



**STORY-AND-A-HALF BUNGALOW FOR A LARGE FAMILY.** This Ten-Room Home Has an Exceptionally Attractive Exterior and a Convenient Arrangement of the Rooms. This Design Will Meet the Requirements of the Man with a Good-Sized Family Who Wants a Modern but Comparatively Inexpensive Home.





**THREE-ROOM BUNGALOW WITH FIVE-ROOM EFFICIENCY.** This design is the latest word in small homes. While there are only three rooms—living and dining rooms and kitchen—the addition of dressing closets and space-saving beds in the living room and the sun parlor, the family really has two extra rooms. The dimensions of the house are 24 by 42 feet. The brick-pillard porch and hip roof make this an attractive little home.



**EIGHT-ROOM, TWO-STORY HOUSE.** The brick porch and sun parlor add materially to the attractiveness and comfort of this home. The house has four rooms on the first floor and a like number on the second. The largest living room, 27 by 14 feet 9 inches, is a feature. The dimensions are 28 by 41 feet, exclusive of the porch projections. An excellent design for the good-sized family.

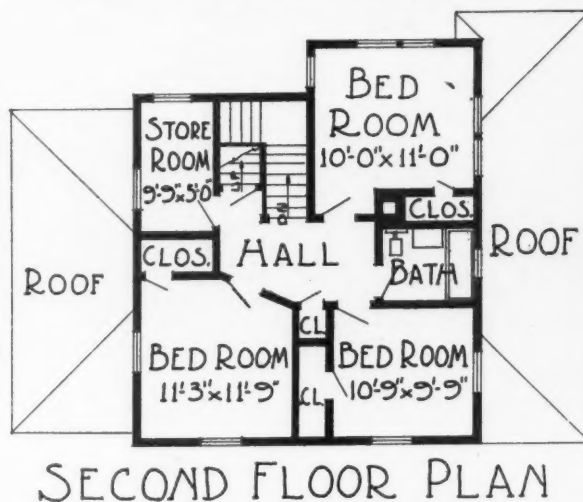
## Design for a Modern Farm Home

**A**LL of the modern conveniences have been included in this design for a farm home. The house contains six rooms and bath, besides a good-sized store room on the second floor. It is of standard frame construction, set on a brick foundation. The dimensions are 30 by 34 feet, exclusive of the front porch projection, which adds nine feet to the length. A good-sized hall, living and dining room and kitchen are on the first floor, and three bedrooms

and bath on the second. A feature of the first floor plan is the wash room, with doors leading to it and to the dining room from the rear porch, thus eliminating that feature that is disliked by housewives—the necessity of tramping thru the kitchen to get into the house. This is a home that will meet the requirements on many farms and will make an attractive addition to the farm building group. Better farm houses with modern conveniences are now the style.



First Floor Plan of the Modern Six-Room Modern Farm Home.



Second Floor Plan of the Modern Six-Room Farm Home. The Good-Sized Store Room Is a Feature of this Design.



Perspective of a Six-Room Farm Home of Standard Frame Construction. The Size, 30 by 34 feet, and the Room Arrangement Make It a Good Design for the Average Farm. It Is Modern in Every Respect and Will Make an Attractive Home.



A Fine Example of the Small Home for a Corner Lot. This Story-and-a-Half Bungalow Contains Five Good-Sized, Well-Arranged Rooms. The Porch Running Around the Corner is an Attractive Feature. The Large Attic Keeps the House Warm in Winter and Cool in Summer, and Is Large Enough for Two Additional Bedrooms.

## Story and a Half Bungalow for Corner Lot

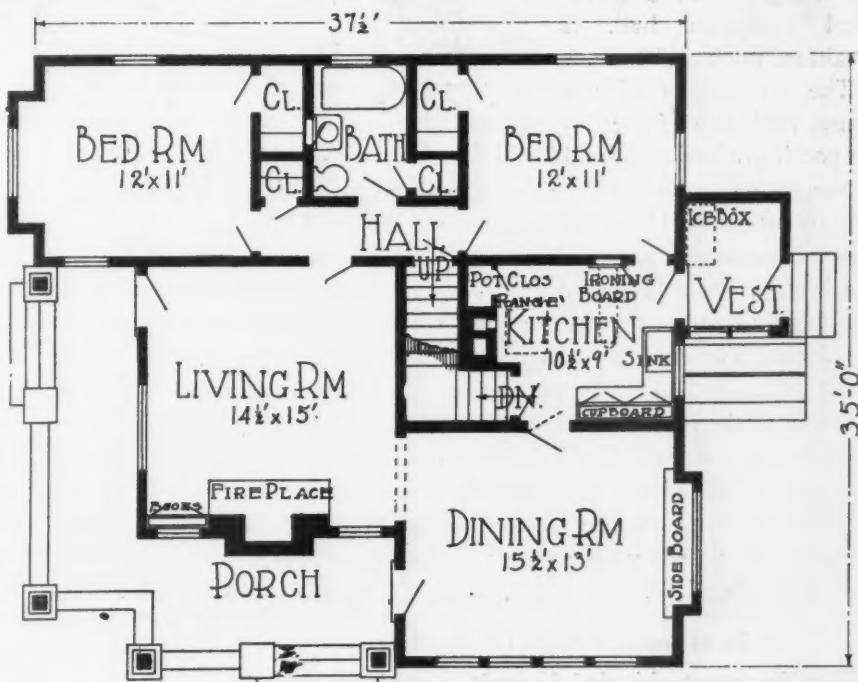
**H**OMES to be erected on corner lots require careful planning as to exterior, because they present two faces to the street. Here is a design that is exceptional, in that either the elevation shown in the illustration at the bottom of the page, or the one at the side might be called the front of the house. Should it be located on the opposite corner, what now appears to be the side would become the front.

This story and a half bungalow is an attractive home. The boulder porch, which runs around the corner, and the long slope of the roof, give it a fine exterior appearance. The floor plan shows five rooms, living and dining room, kitchen, and two bedrooms and bath. The dimensions of the house are 37 feet, 6 inches, by 25 feet. All of the rooms are of good size and arranged for convenience.

While no second floor plan is shown, two additional bedrooms can be put in the attic, one at the front, and one at the rear, by erect-

ing partitions of wallboard or lath and plaster.

A bungalow such as this will give the owner a most satisfactory home, and will be a distinct addition to the houses on any residence street.



FIRST FLOOR PLAN

Floor Plan of the Five-Room Story-and-a-Half Bungalow for a Corner Lot.



## Portfolio of Blue Printed Beautiful Homes

FOUR DESIGNS THAT WILL INSPIRE THE PROSPECTIVE HOME BUILDER ARE SHOWN IN THE PAGES FOLLOWING

CONTAINED in the Portfolio of Blue Printed Beautiful Homes on the following pages are four designs that will inspire a desire in prospective builders to have homes of their own. Contractors, material dealers and architects have found since the AMERICAN BUILDER added this exceptional feature that these perspectives and floor plans are strong business pullers and are enthusiastic about them. They are distinct additions to the literature of home building campaigns, and will continue to be so.

The four designs presented this month are of an Exceptional Hip-roof Colonial House; a Fine Five-room Shingled Bungalow; a Five-room Gable-roof White Bungalow, and a Beautiful Brick Bungalow, a quartet of homes that will challenge the attention of the most exacting prospect.

### A Fine Hip-Roof Colonial

The Colonial house is designed for a good-sized family that wants a beautiful home, or for the smaller family that desires plenty of room. The perspective shows what a beautiful exterior appearance it presents, the pergola effect, the columns of the entrance porch and the large sun parlor, making it most effective. The house contains nine rooms, besides the living porch, a good-sized reception hall, a breakfast nook and bath.

The dimensions of the house, exclusive of the living porch projection, are 38 by 51 feet. On either side of the reception hall are the living and dining rooms. The living room, 13 by 18 feet, with a library 13 by 8 feet, 6 inches, is connected with it. The living porch is a beauty, being 11 feet wide by 22 feet long. This also has a pergola effect in the roof, which has a canvas deck. The dining room is the same size as the living room and off it is an open porch at one end and the kitchen at the other. Three bedrooms for members of the family, a large dressing room, which opens on to the balcony over the living porch, a maid's room and bath room are on the second floor. This home was designed by Lawrence L. Barnard, architect, New Rochelle, N. Y.

### Five-Room Shingled Bungalow

The five-room shingled bungalow, with its broad porch and hip roof, makes an attractive home. The bungalow contains five rooms and bath, living and

dining rooms, kitchen and two bedrooms, the first named three being on one side of the house and the last two and bath on the other. There is no waste space in this home, and by installing a space-saving bed in the living room an additional sleeping room is provided. The house is of standard frame construction, with shingled siding. The dimensions are 28 by 41 feet.

The white bungalow shown on page three is another fine design of this type of home. The house itself, if the porch were removed, would be a gabled cottage, but the addition of the pergola terrace and the arched effect in the roof over the entrance, give it a most artistic appearance. The bungalow is 32 by 45 feet, with an 8-foot porch projection. The living room is 13 by 19 feet; the dining room 13 by 15 feet, 6 inches; the kitchen 13 by 10 feet, and the two bedrooms 13 by 11 feet. Note in the floor plan the clever way the

bathroom is located so that it is accessible to the bedrooms and other portions of the home. Another feature of this design is the large attic space, which provides warmth in the winter and coolness in the summer.

### Brick Bungalow for a Narrow Lot

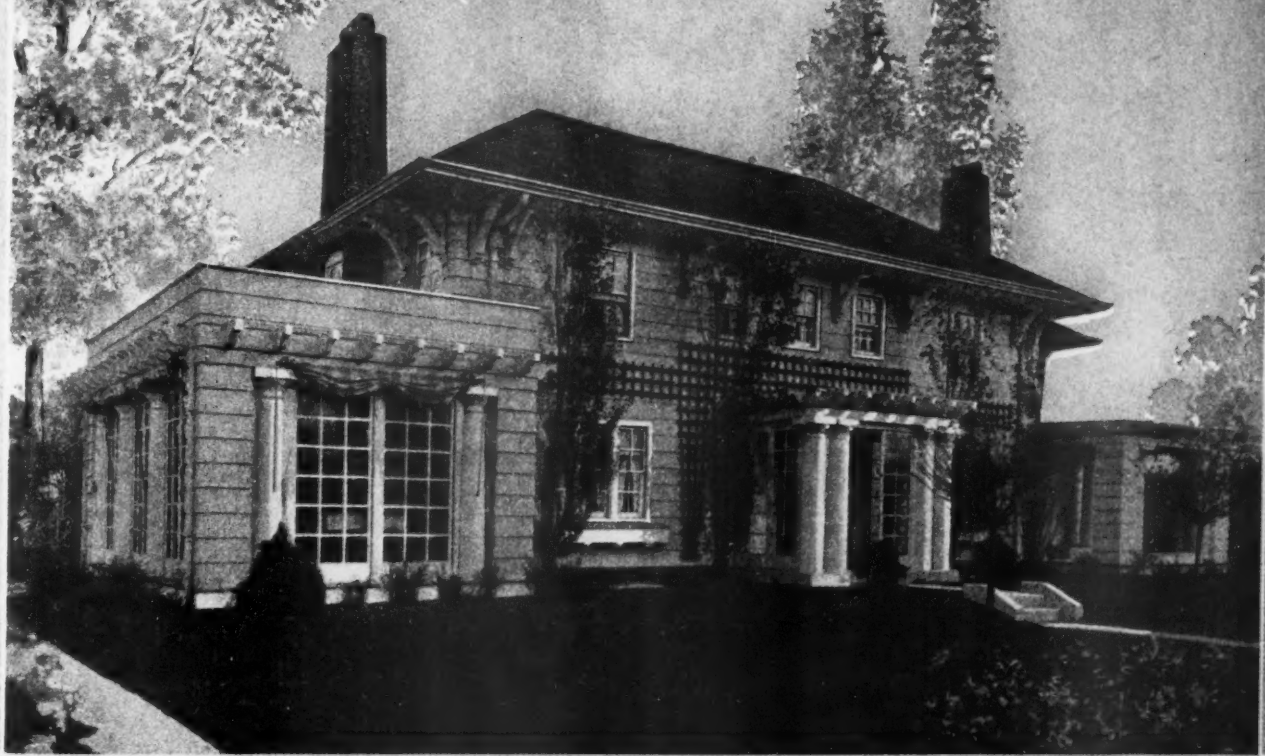
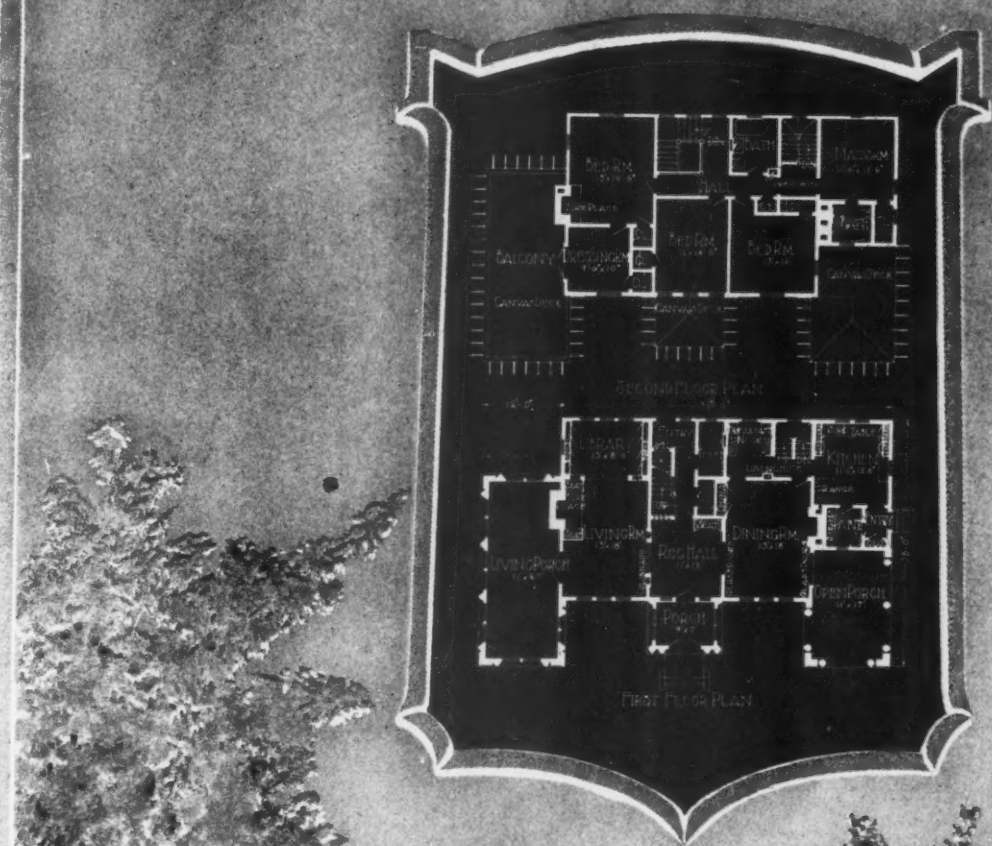
The brick bungalow design is suitable for a narrow lot, or for the owner who wants a wide expanse of side yard. The high basement, the gables and

hip roof, the window projections and the foundation walls all take this design out of the ordinary class. The first floor contains five rooms and a large sun porch, but there is space in the attic for two additional bedrooms. The living room is 13 by 24 feet and opens off the reception hall. The sun parlor, 9 feet, 6 inches, by 24 feet, extends across the end of the house. To the right of the reception hall is the dining room, which is large and is made an attractive, light and well-ventilated room by the many windows. Two bedrooms, with bath between, and the kitchen complete the room arrangement.

These four designs present an assortment that will supply a home design for families of different ideas as to the size of the house they will build and as to the room arrangement and the materials used. All are good—the kind that the builder who has a reputation for supplying his clients with the most modern homes can recommend with confidence.

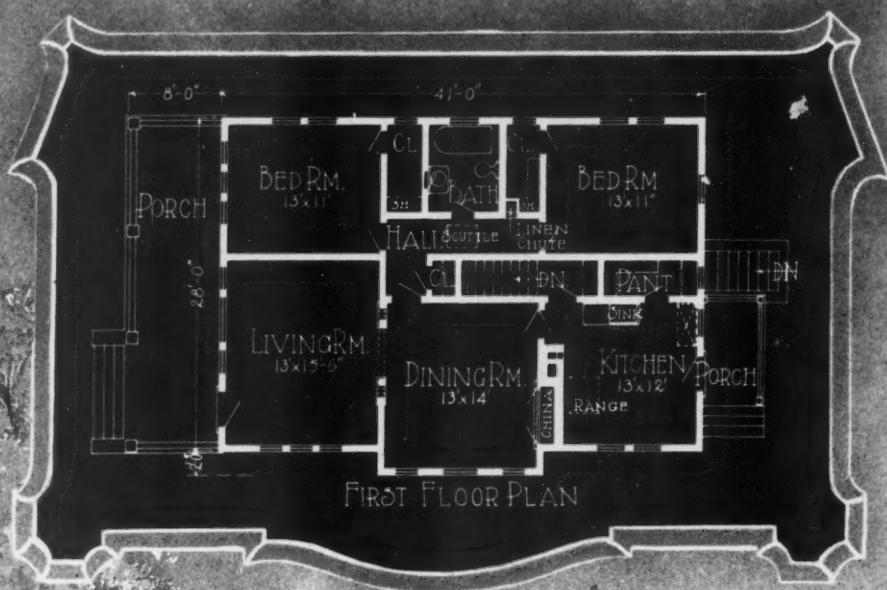


The Two-Color Designs Win Joyous Smiles and the Order.



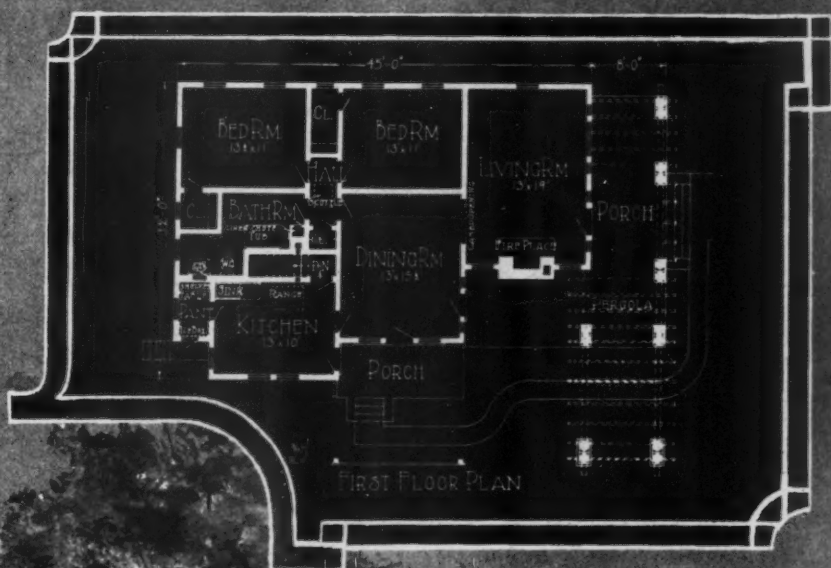
**A**N EXCEPTIONAL HIP-ROOF COLONIAL HOUSE. Here is an extraordinary home design for a large family. The hip roof and pergola effect on the living porch, the entrance porch roof and the open porch give it a most distinctive appearance. The dimensions of the house are 51 by 38 feet, exclusive of the porch projections. The house contains nine rooms, besides the living porch and large central reception hall. The rooms are well balanced. On either side of the reception hall are the living and dining rooms, off each of which opens a porch. Library and kitchen are the other two rooms on the first floor. Upstairs are four bedrooms and a large dressing room and two baths.



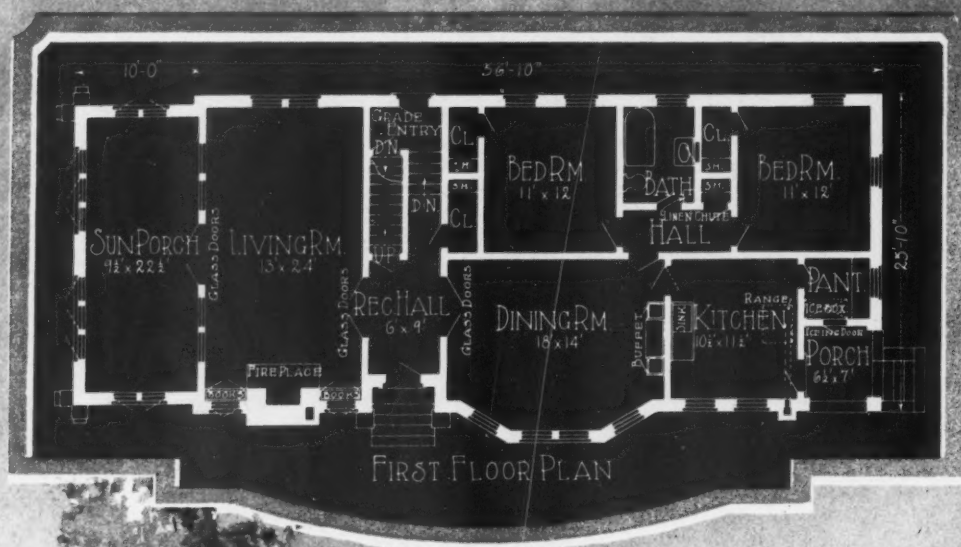


**A FINE 5-ROOM SHINGLED BUNGALOW.** This design of a hip-roof bungalow will challenge the attention of a majority of prospective home builders who want attractive and not expensive bungalows. The hip-roof, dining room window projection and the side wall treatment make this an exceptional design. The house contains five rooms and bath, living and dining rooms, kitchen, two bedrooms and bath; just right for the medium-sized family. The dimensions of the house are 28 by 41 feet, with an 8-foot porch projection. This design is equally suitable for city or country and will give its owner a most satisfactory home. Builders will find this bungalow one that will meet with the approval of many clients.





**F**IVE-ROOM, GABLE-ROOF WHITE BUNGALOW. What an attractive home can be built from this design can be seen by the perspective. The pergola and front porch combined and the shape of the house itself make this a fine addition to the architecture of any street and will give the owner the maximum of satisfaction. There is a good-sized living room and dining room, two bedrooms and the kitchen, besides the bath room in the floor plan. Note the many conveniences that have been put into this design. The dimensions are 32 by 45 feet, with an 8-foot porch projection. This is a home that builders will find suited to the wants of their clients.



**B**EAUTIFUL BRICK BUNGALOW. Here is a brick bungalow of five rooms, with a large sun parlor and well-lighted attic space. This house is designed for a narrow lot, or for the owner who wants a wide expanse of side yard. Its dimensions are 25 feet, 10 inches by 56 feet, 10 inches. The large living room, 13 by 24 feet, with the sun parlor, 22 feet, 6 inches by 9 feet, 6 inches, opening off it and connected by glazed doors, is a feature. Here is a home that the owner can be proud of and will be a credit to the builder, as it is not only attractive, but contains every convenience.



# Chimney Plays Important Part in Heating a Home--How to Build It Correctly

By Victor Cherven

Heating Engineer.

**D**EFFECTIVE chimneys are responsible for more fires and a greater waste of fuel than can be charged up against any other half dozen causes. Chimneys seem like such simple things that anyone would naturally suppose that they would always be built perfectly. Lead pencils are simple things, too, but not many of them are perfect. It is the simple things in this world that seem to be neglected most, and chimneys are no exception.

As the most important chimney in the home is the one to which the home heating plant is connected, that is the one that we shall discuss particularly. This chimney should be straight and vertical and should reach from the basement floor to a point at least three and one-half feet higher than the highest part of the house. There should be a smooth flue the same size from top to bottom. The inside cross-section should never be less than 8x8 inches, and if the house is large enough to require a large furnace, the chimney should be 8x12 inches—in very large houses, 12x12 inches.

## Brick Make the Best Chimney

Chimneys that leak are inefficient, because all of the draft should be available for the furnace. Every crack in a chimney amounts to an uncontrollable check draft—most underisable from an economic standpoint and truly dangerous. Cement chimneys are not satisfactory because they do crack. The best chimney is built of hard-burned brick and mortar. A careful mason builds a chimney of these materials that will not crack at least for a lifetime.

A tile lining adds to the cost of a chimney when only one flue is needed, but it is worth while. When two or more flues are wanted in one chimney, tile provides for them, which means a saving. In this case tile should be unbroken and joints thoroly cemented together. Tile makes a very smooth flue and it insures a permanently tight flue.

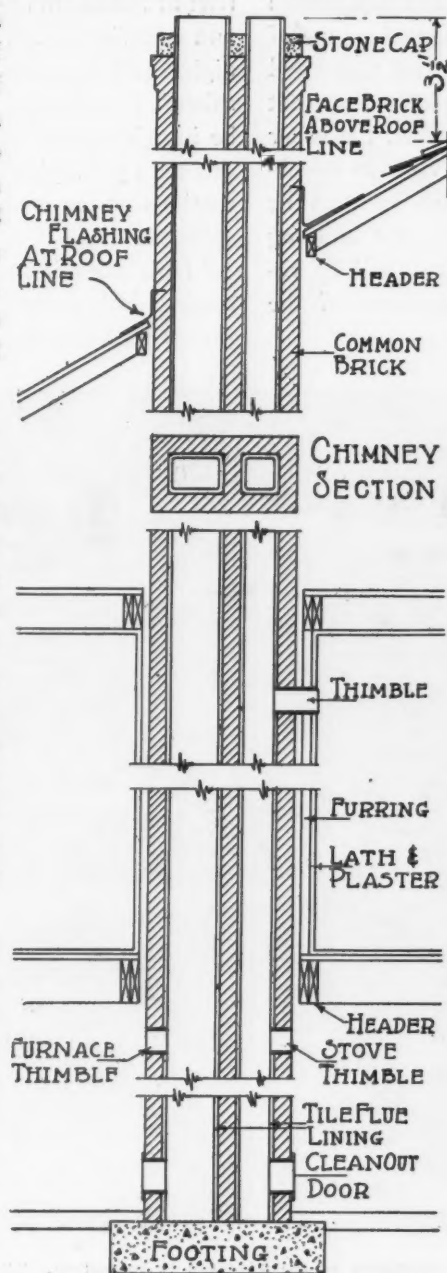
No stoves or heaters should be connected to the furnace chimney except when they have fires in them. A chimney will draw the coldest air it can get and will naturally take air from a cold stove before it will from the furnace. A tight-fitting damper should shut off the laundry stove or water heater when not in use. By all means never have anything but the furnace connected to the furnace chimney if you can possibly avoid it.

If it is desired to utilize the draft of a chimney for ventilation purposes, separate flues should be provided. A thimble should be carefully masoned in the chimney to receive the smoke pipe, so that the connection between the chimney and the pipe will be practically airtight.

## Clean-Out Doors Essential

Every chimney should have a clean-out door at the bottom. This will not only make it an easy matter to keep the chimney clean, but will provide a place to inspect the flue. By the use of a hand-mirror held at an angle in the bottom of the chimney, the entire flue can be seen. Since the furnace should always be placed as near as possible to the center of the house, and since the smoke pipe should never be longer than six feet, the furnace chimney must be near the center of the house also.

The draft of an outside chimney is never as good as that of an inside chimney because the difference in temperature between the air in an outside chimney and the outdoor air is not as great the the difference between the temperature of air in an inside chimney and that of the outdoor air. Furthermore, whatever heat goes up an inside chimney is not entirely lost, for the heat radiates into the rooms. It will readily be understood that an outside chimney will radiate heat into the house from only one side. An outside chimney is an attractive feature of some cottages, and is justifiable from the standpoint of air when it is used for a fireplace. It is not justifiable from any standpoint when it is for furnace heating.



Essentials of Good Chimney Construction.



## 100,000 Profitable Remodeling Jobs

THE CLOSING OF THE SALOONS OFFERS CONTRACTORS AND BUILDERS AN OPPORTUNITY TO SECURE PROFITABLE ALTERATION WORK

**A**S this is written it appears extremely probable that July 1 will see the end of the saloons as purveyors of intoxicating drinks. At any rate, should President Wilson or Congress see fit to extend the life of the liquor business, January 16 marks their end, as at that time the constitutional amendment prohibiting the manufacture and sale of intoxicating liquors becomes effective.

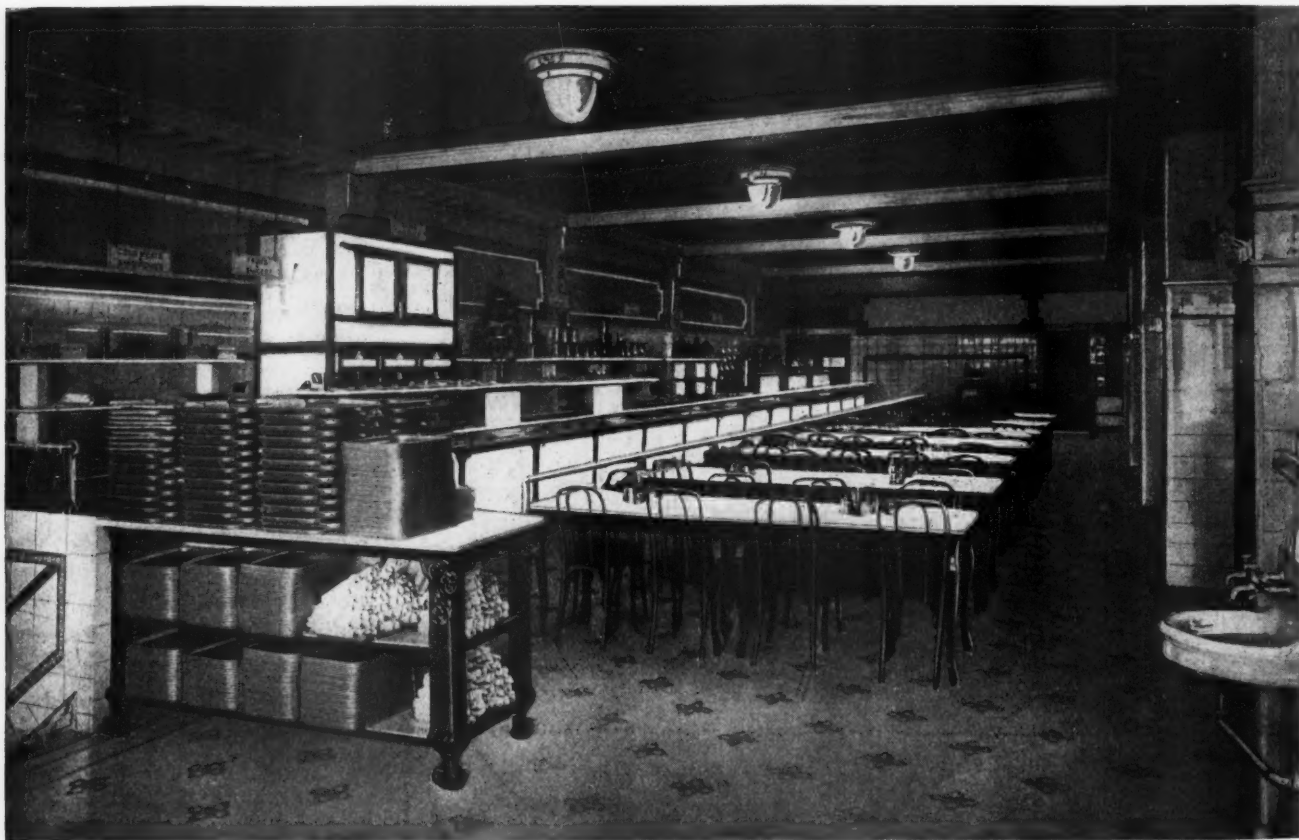
It has been variously estimated that in those states and counties where saloons have been permitted there are between 100,000 and 150,000 store rooms and buildings devoted to the sale of liquor at retail. These stores and buildings will need remodeling when they are transformed into places where other kinds of businesses are conducted. The very nature of the saloon business, which called for privacy, developed a type of construction that is at great variance with that used by other businesses. Where one was planned so that the interior was not visible from the street, the other is designed to permit an unobstructed view to pedestrians. Thus will the contractors and builders be called in to not only remodel the store and building fronts, but to install the equipment that will be required in this transformation of the business of the owners and tenants.

### The Businesses That Will Succeed the Saloons

What will be the nature of the businesses that will succeed the saloons? What will the retailers of liquor turn to that is as profitable as the saloon business? The answer in a great many cases will be found in the following story, told by a famous magazine writer who recently discussed this subject.

In Seattle, Wash., which has been "dry" for some time, the writer entered an extraordinarily elaborate ice cream and candy store. The fixtures represented an expenditure of many thousands of dollars. It was an ornate place, and did an enormous business. In the proprietor the visitor recognized a man who had formerly owned and operated a saloon in the Yukon district of Alaska in the days that section was both famous and notorious—famous for making millionaires over night, and notorious because of the character of its saloons and dance halls, and gambling places. As can be imagined, the magazine writer was startled to find this man purveying such innocuous but delightful concoctions as ice cream sodas, nut sundaes and banana splits.

"How does it seem to be selling 'soft' stuff, after having dealt out the 'hard' stuff for so many years?" the writer asked the proprietor.



Interior of the Up-to-Date Cafeteria. The Arrangement of the Fixtures Is Important. The Customer Passes Along in Front of the Counter, Taking the Food that Appeals to Him. This Is a Popular Business and One which Will Replace Many Saloons.

"Say," replied this man, "if I had known how much money there is in the 'soft' stuff I'd quit selling 'hard' stuff long before they forced me to."

That seems to be the answer to the question of what business the saloonkeeper, long used to catering to the public, and an adept at handling customers, will turn to to keep his property profitable and to provide a paying occupation for himself.

It should not be inferred that every saloon will be turned into an ice cream parlor. The billiard room, the barber shop and the lunch room offer just as good an opportunity. The cafeteria has proven so profitable in practically every instance that many will install this type of eating place.

Because of the fact that patrons occupy a table only when actually eating, the cost of operating a cafeteria is remarkably low, and the number of people served remarkably large.

The combination room is coming into prominence and is certainly the logical successor to the saloon. This type of recreation place is provided with a billiard room, a lunch counter, a soda fountain and a barber shop all rolled into one. Each feature draws patrons and each additional feature increases the owner's profit.

#### Where the Builder Comes In

The contractor and builder will figure prominently in this work. He is the man who knows how to remodel buildings and stores and who will be called on to help the building owner and tenant plan this remodeling so as to accommodate the proper fixtures



The "Serve-Self" Luncheon Is Popular Both in Large and Small Cities. The Arms of the Chairs Ranged Along the Wall Provide Tables, While the Food Is Served at the Counter. This Type of Lunchroom Is Especially Suited to Long, Narrow Store Rooms.

for the ice cream parlor, restaurant or cafeteria, and billiard room and barber shop.

The interiors of saloons are of great variety of sizes and shapes. Some are narrow. These are suited for a lunch counter, with a row of tables along one wall. Practically every one of them has a rear room used for storage or sitting room, and, as they are on the street level, have the use of the basement. These rear and basement places will be turned into kitchens and cold storage rooms.

Larger store rooms will be suited to more elaborate fixtures, such as the steam tables and racks that are required in cafeterias. Others are large enough to be subdivided to accommodate a barber shop, a billiard room and a soda fountain, with the tables that are found in all of the latter places where the elaborate menus are provided. In the larger restaurants careful planning to accommodate the kitchen equipment and



A Combination Lunch Counter and Restaurant, Where the Food Is Served to Customers, Either at the Counter or at the Tables. The Equipment Is Installed with a View to Serving With Speed and Ease, as Profits Depends on Using the Space as Rapidly as Possible at the Rush Hours.

the furnishings in the dining room will be required.

For some time past the concerns that supply equipment and fixtures for places such as have been described have been preparing for the "drouth" that will

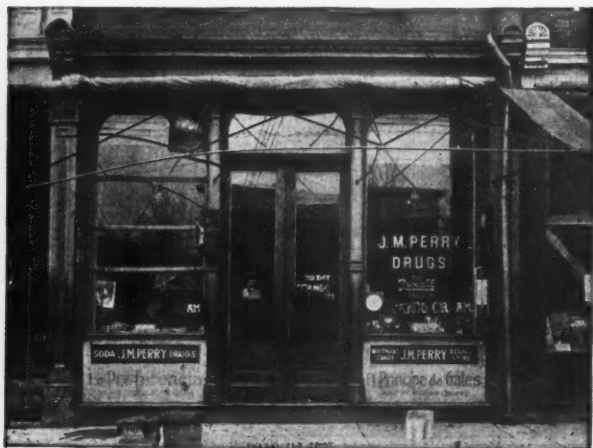


The Store Pictured Below After a New Front Was Installed. Converting Saloons, with Their Closed Fronts, Into Such Business Places as this Will Furnish Profitable Work for Contractors.

put the saloons out of business. They also have watched with interest the increase in the soda, ice cream and candy business, and have prepared for the time when the space occupied by the saloons would be used for other purposes. Floor plans for this purpose have been prepared. They show where the equipment should be placed so as to make the work of the employes more efficient and what equipment should be installed to care for the number of persons who can be accommodated in a given space. As the contractor who either builds or remodels is also the advisor of the owner in selecting the equipment that he is to install, these plans will be of great value to the members of the building industry.

### Remodeling the Saloon Fronts

Remodeling the fronts of these thousands of business places is another feature of this activity that will come with the end of the liquor business. The front



This and the Accompanying Illustration Show What Can Be Done with an Old Business Place by Installing a New Front.

is as important as the interior of a store in modern merchandizing. As was said at the beginning the nature of the saloon business called for privacy of the patrons of these places. Little did the owner of saloon property care about the exterior; making the front modern was a waste of money. Saloons where many thousands of dollars were spent on interior decoration and for fixtures had fronts that were as out-of-date as can be imagined. These fronts will go and modern show windows will be installed in their places. Here, too, the builder has the advantage of the development of this type of construction by manufacturers of store fronts.

The transformation of saloon property will bring to the building industry a great amount of work. Whether it be making over the building to accommodate an ice cream parlor, a lunch room or restaurant, a barber shop or a billiard room, or into an elaborate place where there is space for dancing in connection with the parlor where light luncheons and refreshing but non-intoxicating drinks are sold, the contractors and builders will be exceptionally busy.

The contractor willing to sit back and let this business come to him is missing a splendid opportunity. Only by effort can he expect to reap a full measure of the profits that might be his.

Every saloon and every saloon owner is a prospect and a good one. The contractor who makes suggestions as to the remodeling of the saloon into some other enterprise is bound to swing a nice share of this business his way.

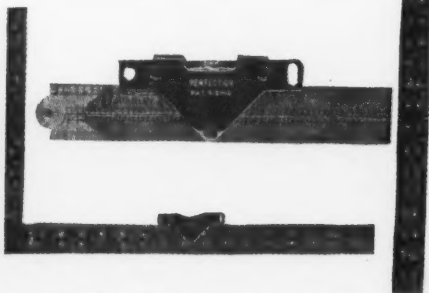


### Level and Plumb to Be Attached to Any Straight Edge

Improvements on the tools that a workman on a building job is constantly using always are welcomed, for each one means that the work can be done more easily and quickly. A level and plumb, no larger than the palm of a man's hand,

that can be attached to any straight edge, such as a steel square or rule, has recently been devised and put on the market. It is sold thru hardware dealers.

The accompanying illustrations show the level on the square and a rule, and in use as a plumb. It is made of brass and is nickel-plated. The convenience of this little device is obvious. It can be carried in a pocket, or tool chest, and instantly attached to the square or rule when needed.



A Little Level that Is Attached to Rule or Square, Making Either a Level or a Plumb.

This is a practicable, serviceable and accurate article that will appeal to the structural mechanic.



## Keep the Yard Men Busy Making Concrete Blocks at Odd Times

**T**HE men around the lumber and material dealer's yard are not busy all the time; in fact, there are days when they don't have very much to do. And at the same time they are drawing their pay with consistent regularity. That idle time costs the yard owner real money and if he employs it to a good advantage, he is so much ahead.

One way to keep the men busy making a profit for the dealer is to supply them with a small concrete mixer and a concrete block machine. On the days when there is not much doing they can turn out quantities of blocks and store them away until a customer for them turns up.

### How to Mix the Concrete

Making concrete blocks is not the haphazard, "hope-they'll-be-some-good" work that it used to be. The proportions of cement, sand and gravel that will make substantial building blocks that will not crumble are fixed—one part of cement to not less than three parts of fine or coarse aggregates, while there is a growing tendency to add hydrated lime. If this is done it should be used in the proportion of about 1/10 as much lime as cement, but in no case use the lime as a substitute for cement.

The mixing preferably should be done with a machine because this insures the proper mixing of the materials thruout the mass. The concrete must have enough water to make it hold its form when com-

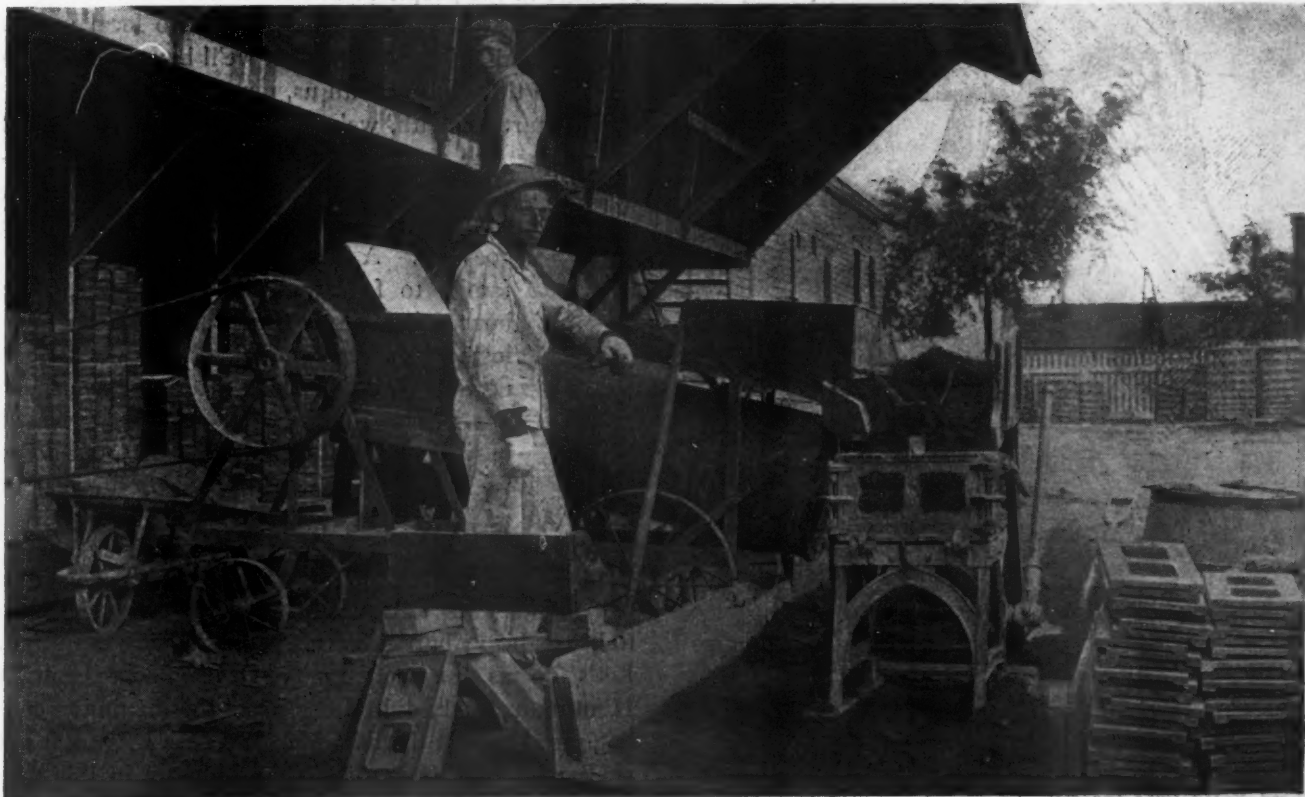
pressed in the hand. Too much water is as bad as too little.

### Use Best Grade of Clean Materials

An important feature of making cement or concrete blocks is the use of good materials. All the cement used should be of the standard brands, which can be depended on to conform to the regulation tests. All the aggregates, whether fine or coarse, should be clean and free from vegetable or organic matter. The presence of silt, dust or clay interferes with the binding action of the cement. Dirty materials can be detected by rubbing in the hands, or by placing the materials in water and allowing them to stand. Objectional materials will remain on top of the water. The water also should be free from impurities.

There are many good concrete block machines now manufactured and with them come molds and pallets that will turn out almost any desired size and shape of blocks. As it requires some time for the blocks to set and become sufficiently hard to put into the building, this work of necessity must be performed some time in advance of the time when the customer wants them.

The demand for concrete blocks for all sorts of construction has been growing rapidly, especially in the parts of the country where natural stone is not available. Making these blocks is profitable work, and is especially so when the labor that would otherwise be idle is employed.



"Here We Are Making Concrete Blocks and We Have Done Very Well," Says E. A. Nott, of Elwood, Neb. The Mixer and Block Machine Keep the Yard Men Busy Turning Out Saleable Materials During Dull Times.



## *Fred Beard says:*

### **“We’ll Get Our Home Building Message to the People by Advertising”**

**“W**ELL,” said Fred Beard, as he settled himself into a chair in his hardware store, “we started something, even tho we didn’t get very far.”

“Absolutely,” replied Jack Crisp, the real estate man. “You gave those fellows up at the chamber of commerce some straight talk about the need of a home building campaign. They saw the logic of your arguments and will back us up individually, even tho the chamber of commerce does not as an organization. And now let’s get busy and frame up the plan, and

put the idea over ourselves.”

“That’s the talk,” said Ed. Maple, the lumber dealer. There’s no use in waiting; now is the time to get busy.”

“Yes,” interjected Sam Williams, the contractor, “we’re the ones who are interested, and it is up to us to put this old town on the map as a progressive place, inhabited by aggressive business men. Tell us, Fred, what you want each of us to do and why, and we’ll do it.”

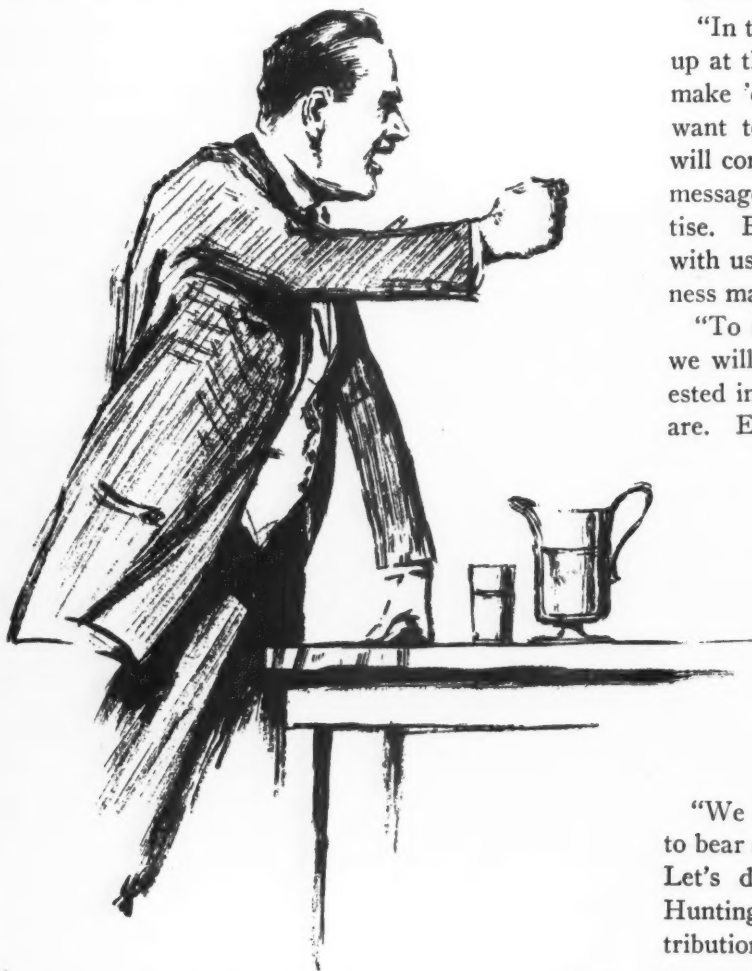
#### **We’ll Get Our Message to the People by Advertising**

“In the first place,” said Fred, “it’s just as I told ’em up at the meeting, the way to make people build is to make ’em want to build. And the way to make ’em want to build is to show them the advantages that will come to them personally by building. To get our message to the people of this town we’ve got to advertise. By advertising we’ll have the two local papers with us, and before we get thru we’ll have every business man that is alive with us, too.

“To start off with, we’ve got to have money. And we will get the money from people who are as interested in the growth and prosperity of this town as we are. Every merchant is benefited when a new home goes up. A new home means one more family to feed and clothe, and one more house that needs furnishing. These fellows don’t benefit, perhaps, as much right now as we do, but long after we have spent our profits they will be getting additional business. With us it’s a case of profit now; with them, it’s an additional profit, year in and year out.

#### **How the Plan Was Financed**

“We don’t want any one man or any one set of men to bear a heavy burden in this home building campaign. Let’s do as the Community Development Club at Huntington, Ind., did. Let’s make the maximum contribution \$25 and the minimum \$10. As I figure it out we can raise a thousand dollars or more in this way and no individual will be called on to give up much.



Fred Beard Gave the Members of the Chamber of Commerce a Straight Talk About the Need of a Home Building Campaign.

"Here's four of us who will directly profit from the erection of homes. Let's start the ball rolling by putting our names down for \$25 each."

"Agreed," said the other three men simultaneously.

"That's a good starter," resumed Fred. "We are showing in a practical way that we believe that home building can be promoted in our city.

"As to the people who will help us in this project. We're not limited to retailers. The manufacturers here are as interested in having their employes own their homes as we are in building those homes. A home owner is a better employe than a renter. He stays 'put' and is not continually wandering from one job to another. Besides, he is a better citizen, because he has an actual investment in his community and will want better government, better schools and will be a booster for the town.

## Manufacturers Vitally Interested in Home Building

"Now, Jack here is in pretty close touch with the manufacturers. He has helped them in their building projects and has a reputation for being a man who never starts unless he finishes. He's the fellow to get the manufacturers lined up back of our plan. Ed. and I will take care of the retailers. Sam buys of a lot of fellows who are interested in seeing him get more work, because that means more sales for them. He can tackle that class. And between us we'll have the sinews of war mighty quick.

"Then we will start advertising. Let's not be pikers; let's use full-page space. We can get the editors to help us write the matter and they can get illustrations, showing nice homes—the sort that don't cost a fortune, but will give the owners a good, comfortable and convenient home.

## Another Home Building Booster

"There's another good home building booster that I

heard about only recently," put in Jack. "That's a book of home building designs. The one I saw had a wonderful cover; it was filled with home designs of the kind you just mentioned, Fred; and inside the covers are inspirational articles that will make people want to build and at the same time suggest that the local architects, material men and contractors can give a lot of valuable advice about home building. These books don't cost much, and if we place one in the hands of everyone that is likely to build, or has been thinking about building, or in whom we arouse a desire to build thru our newspaper advertising, we'll get building started here mighty quick. A couple of hundred of these books would be enough for a starter, altho I am certain when we get some of them in the hands of men of families, there'll be a rush for them."

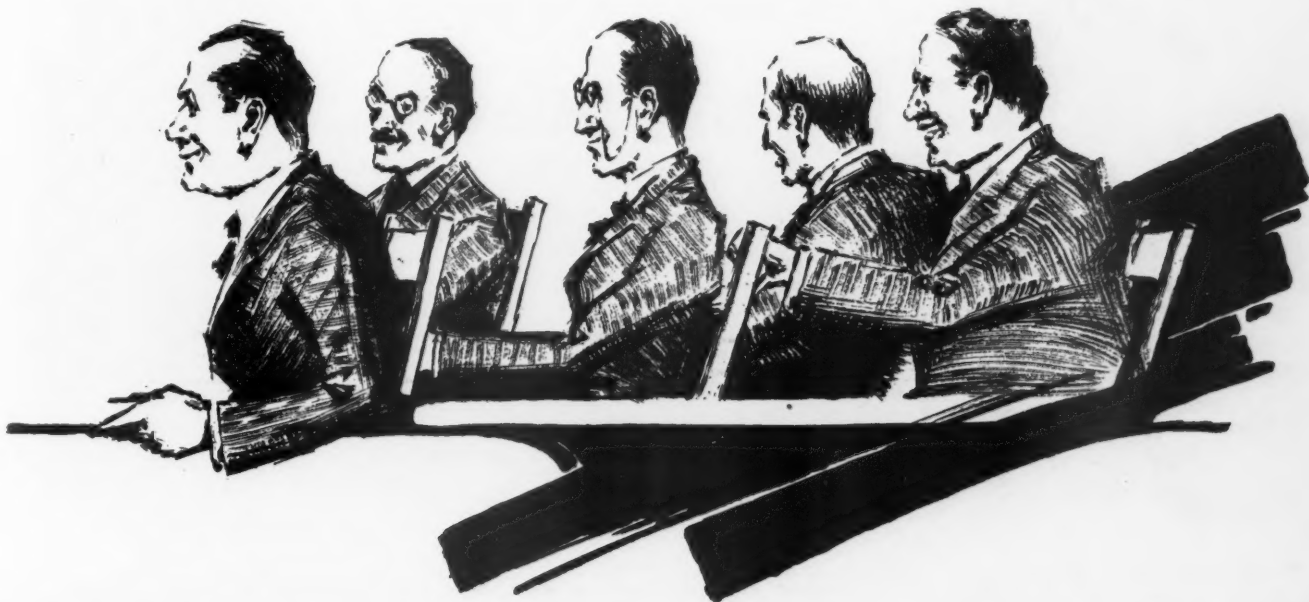
"Something along the line of my window display that got you enthused over this idea?" queried Fred.

"Yes," replied the real estate dealer, "only they're much more beautiful, being printed in colors. Incidentally, we can have the name of our organization printed on the top of the front cover, and we can get the blue printed plans of each building for our customers at a small cost."

"I've used such plans for several years," put in Sam. "I've found them to be excellent and I've built several houses and many farm buildings from them."

"What do you think some of these knockers in this town will say when we get busy on this campaign?" asked Sam Williams of his three friends.

"What do we care what they say?" quickly responded Crisp. "They can't stop progress; nobody can. Didn't knockers try to prevent railroad building because the engines scared the cows? There'll always be knockers, I guess; and the knockers of today and the future will get just as far as the knockers of the past—and that is, nowhere."

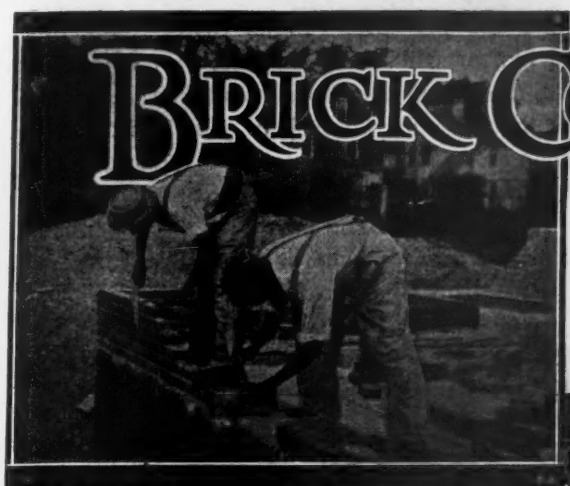


—And the Business Men of His Town Saw the Logic of His Argument and Quickly Agreed to Back Him Up.





Detail of the Entrance and Porch of the George E. Smith Home, Philips Beach, Mass. This is a Fine Example of Colonial Style Brick Work. The Soldier Course Marking the Second Story is an Unusual Feature of the Brick Work.



# BRICK CONSTRUCTION

## for Modern Carpenters and Builders



### A Good Hip-Roof Brick Bungalow—How to Build With Brick

**W**ITHIN the fire limits of many cities regulations prevent anything but the so-called fire-proof construction in either homes, business buildings or manufacturing plants. Thus is the builder of a home compelled to select a design of a house of this type of construction.

Accompanying this is illustrated a design for a six-room, hip-roof, brick bungalow that is attractive in exterior appearance, economical to build and has a well-arranged interior. The dimensions of the house, exclusive of the porch projections, are 24 by 51 feet, which is an excellent size for a lot with a 30-foot frontage. The dormer window and pillared porch are good features of the exterior.

#### Six Well-Arranged Rooms

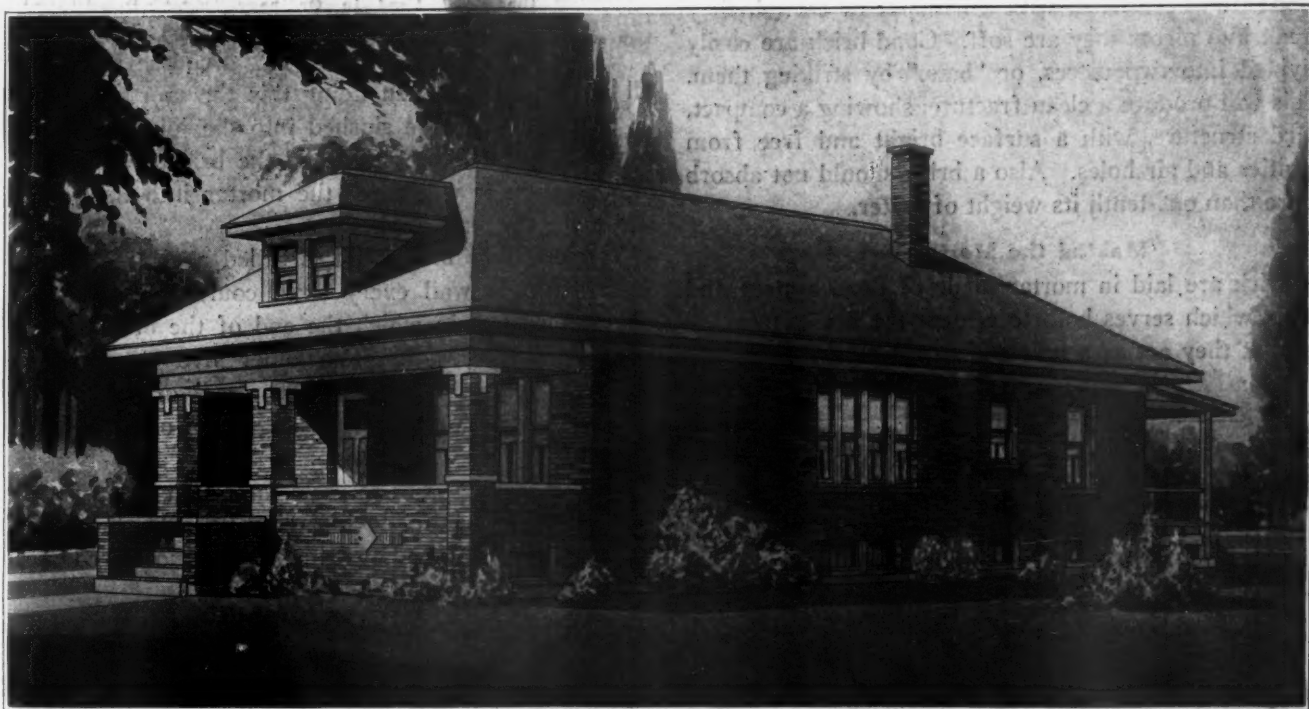
The six rooms consist of living and dining rooms, kitchen and three bedrooms, the first three ranged

along one side and the last three on the other. The living room, 12 by 14 feet, and the dining room, 12 by 13 feet, are connected with a wide free opening, which turns the two into practically one room. Between the dining room and kitchen and opposite the doors leading to two of the bedrooms is the bathroom. The kitchen is 12 by 11 feet 6 inches, and has a pantry opening off it. The bedrooms are 9 feet 6 inches by 12 feet, 9 feet 6 inches by 14 feet, and 9 feet 6 inches by 10 feet.

The basement extends under the whole house, and, of course, has a concrete floor and concrete walls. The hip-roof provides a large attic space, which keeps the house cool in summer and warmer in the winter.

The house is of standard brick construction on a concrete foundation.

This design is excellent, either for city or country.



An Attractive Six-Room Brick House that Will Find Favor with the City Home Builder, as It Is Designed for a Narrow Lot. The Attractive Exterior and Convenient and Compact Room Arrangement Make this a Desirable Design. For Floor Plan see Page 72.

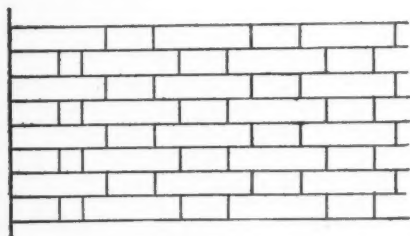


The floor plan of the brick bungalow shown on the preceding page will be found at the bottom of this page.

There is an increasing demand for fire-proof buildings and in consequence contractors are being called on to erect structures of brick, with either solid walls or walls of brick veneer over hollow building tile. Laying up brick walls is not difficult and the carpenter-contractor who knows how to do it saves the profit that ordinarily goes to the sub-contractor. In the balance of this article, the elementary principles of brick construction are discussed by text and illustrations.

### How to Lay Up a Brick Wall

While building with brick is comparatively simple, there is, like in every other building operation, the right and wrong way of doing it. The stability and quality of a brick wall depends on the quality of the materials used, and on the manner in which it is laid up, or built. No matter how good the materials are if the brick mason does not put them in place properly, the wall will not have its maximum strength, neither will the job be workmanlike.



Flemish Bond In Which Each Alternate Brick Is a Header. Every Alternate Course Should Have Headers of Full Brick and Not "Bats."

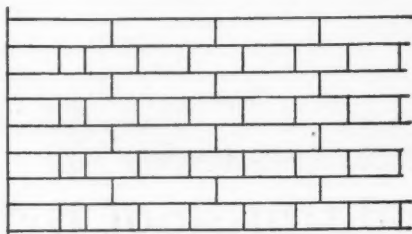
Uniformity in size and color and hardness and being well burned are the qualities that make good building brick. A simple test to determine whether these qualities are present in the brick is to strike them together. If they give off a clear, ringing sound they are good; if, when struck with a hammer or trowel, they break into pieces they are soft. Good brick are easily divided into two pieces, or "bats," by striking them. This will produce a clean fracture, showing a compact, hard structure, with a surface bright and free from cavities and air holes. Also a brick should not absorb more than one-tenth its weight of water.

### Making the Mortar Bed

Brick are laid in mortar made of lime, cement and sand, which serves both to cement the bricks together so that they act as a unit and to act as a cushion for

distributing the pressure. Joints of ordinary lime and sand mortar will be the weakest part of a brick wall, and the joints therefore should be kept thin, not more than one-quarter inch in good work. Portland cement mortar may be as strong as the brick itself, but in this case economy sometimes tempts the builder to make the joints too thin.

Brick usually are quite porous and if laid dry will extract much of the water from the mortar. This



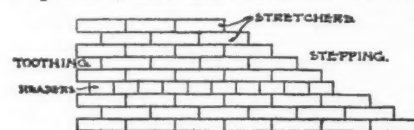
English Bond In Which Each Alternate Course Is a Header Course. The Headers May Be "Bats," But Every Sixth Course Should Be of Headers of Full Bricks.

weakens the mortar. Consequently, the best practice is to wet the brick before they are laid. In laying brick several points should be kept in mind, if a substantial

and strong wall of good appearance is to be secured. Each brick should be laid in full bed of mortar; that is, mortar spread over the entire surface the brick is to set on. Then it should be "shoved" and beat down until it is solid. Shoving the brick forces the mortar into its irregularities and increases the adhesion between the two substances. Each joint should be slushed full of mortar.

### Keep the Walls Plumb

Care should be taken at all times to keep the wall in plumb; also the leads and corners. It is customary



Showing the Bond Used in Ordinary Brickwork, with Headers Every Sixth Course.

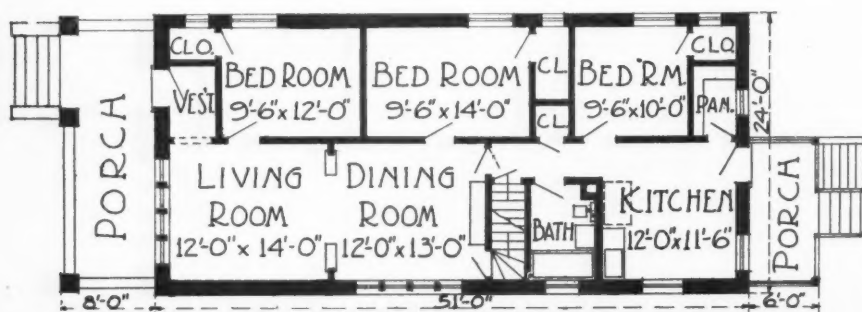
in building brick walls to keep the header or outside course one brick higher than the other course and then

fill in the backing. In doing this the mortar should be soft enough to be slushed into the joints so as to completely fill them, and when the brick is "shoved" into position it will force the mortar into the joints and make the wall solid.

The ordinary brick wall is called a common bond wall. In this wall every sixth course is a "header course," or one in which the end of the brick shows in the outside wall. The other five courses are "stretcher courses," or those laid with the long side of the brick showing.

The most important thing NOT to do in laying up a brick wall is to have the vertical mortar courses over one another.

The stretcher course is started by inbedding the first brick firmly in the mortar bed, shoving it up to the line. The second brick is laid the same way, and so on. When



FLOOR PLAN  
Floor Plan of the Six Room Brick House.



a section within arm's reach has been laid, the backing is started with the brick laid the same as those in front.

The sixth, or "header" course, is started with a quarter or three-quarter brick. The succeeding brick are laid with the end to the outside wall. As these in the face of the wall extend over the mortar joint, this forms a bond, which holds the wall together rigidly.

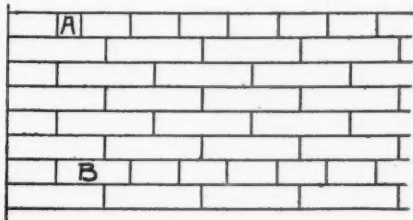
While this is the ordinary brick wall construction, there are the Flemish bond and English bond walls. In the former every alternate brick is a header. In the English bond every other course is a header course, but should "bats" be used as headers, every sixth course is a full header course, similar to that in the common bond wall.

To make a good appearing wall, care should be exercised to keep the plumb-joints plumb and in line.

Corners should be laid up so that the course of one wall dovetails with the other.

#### Laying Up the Chimney

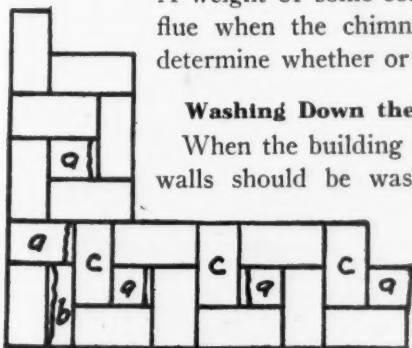
Chimneys should be laid up so that the flues will be as straight as possible. Where a short bend in the flue is necessary, an opening in the chimney should be left so that the flue can be cleaned when the chimney is finished. During



The Ordinary Method of Brick Wall Construction, With Every Sixth Course a Header Course, as at A and B.

the course of construction mortar and pieces of brick will lodge at this point, especially if the bend is sharp. An opening also is left at the bottom of the chimney and a board inserted for the same purpose. When the work is done, the board is removed, the flue cleaned out and the opening closed. If a flue lining is not used the inside of the flue should be plastered. Care should be taken that all joints in the chimney are filled solid with mortar. The top of the chimney above the roof should be laid up in cement mortar.

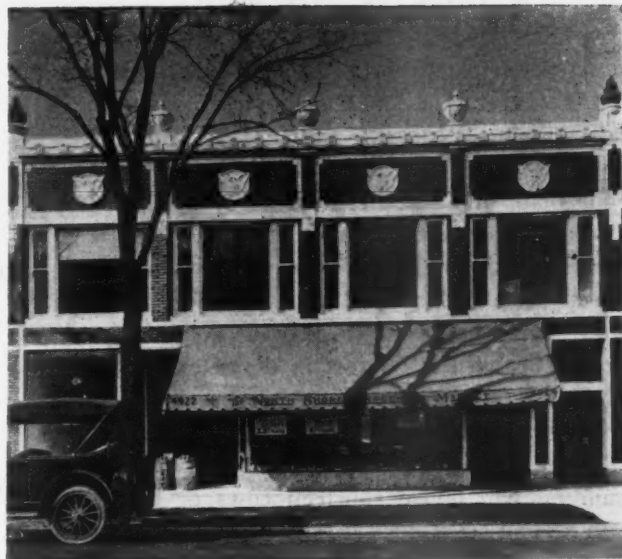
A weight of some sort dropped into the flue when the chimney is finished will determine whether or not it is clear.



Plan of Corner Built with Flemish Bond.

#### Washing Down the Finished Walls

When the building is finished the face walls should be washed down with a solution of diluted muriatic acid and all dirt and surplus mortar removed. All open joints



A Good Example of Modern Stone Building of Face Brick, with Terra Cotta Trim.

should be pointed, care being taken that just enough mortar to fill the face of the joint is used.

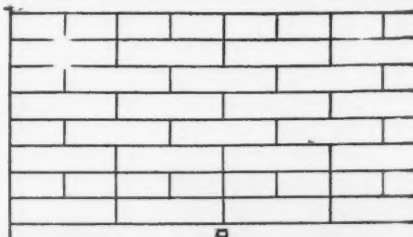
As brick sometimes do not run even in color, fine effects can be gained by using the darker shades for the header courses, and the lighter for stretcher courses.

During the course of construction the walls at night should be well covered so that if it rains the fresh mortar will not be washed out. This applies also to any other time the work is suspended.



#### Insulating Stucco Houses

The use of insulating material in walls where stucco construction was used was developed by the Government in its war building projects, and was found to be efficient in making the buildings weatherproof. This insulating material, which comes in the form of a mat or quilt, was used in the various types of stucco wall construction where sheeting was not put on. The quilt is made of cured eel grass, which has a tough, flat fibre that forms thousands of dead air spaces, making an



A Common Bond Wall that Was Started the Wrong Way. Note the Vertical Mortar Joints, as at A, that Come One Over the Other.

insulating layer that tests have proved to be excellent. The eel grass grows in the sea and is composed of silicon in place of carbon that exists in plants grown in the air, and, therefore, will

not harbor insects or vermin and will not burn. The thinnest possible partitions can be built of metal lath, expanded metal or the patented lath boards and will be weather and sound-proof by the use of this insulating material.



#### The Inconsistent Sex

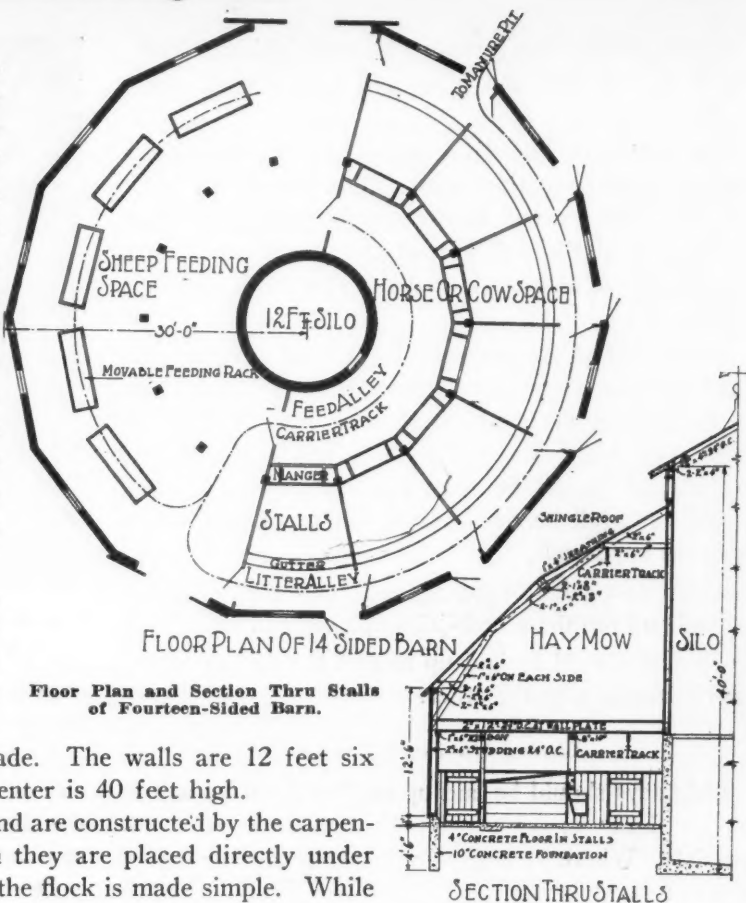
"Even when a woman thinks she is worth her weight in gold she would hate to get too stout."—*Boston Evening Transcript*.

### A Novel 14-Sided Barn

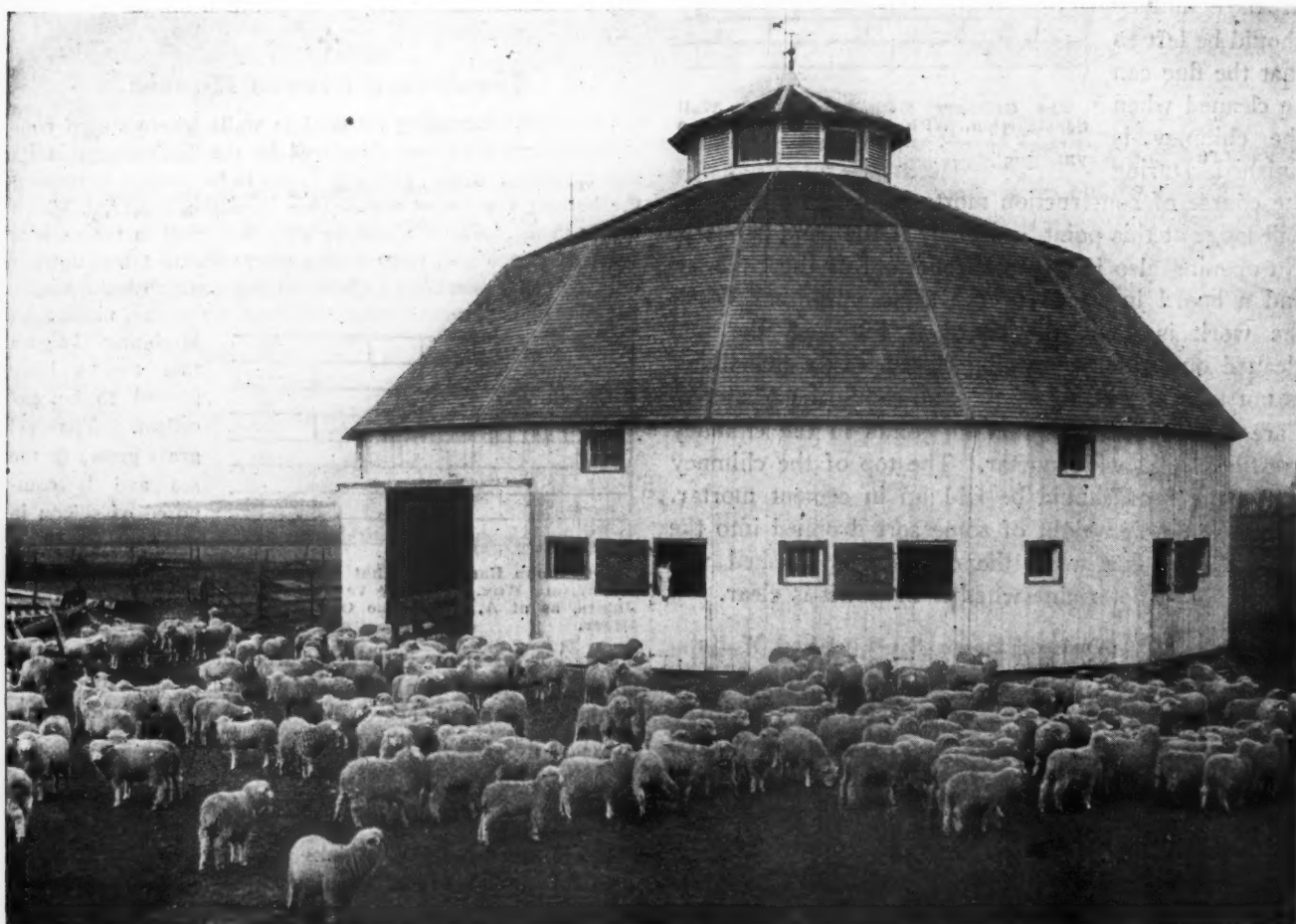
HERE is a multi-sided barn that serves the triple purpose of providing shelter for the herd of sheep, a stable for horses or cattle and a storage place for the food of the farm livestock. As will be seen by the floor plan, one side of the barn is open and has a cinder floor, while the other has a concrete floor and stalls for the cattle or horses. Sheep need a place that is dry, so the cinder floor should be graded to provide good drainage. The barn is 60 feet in diameter with a 12-foot silo in the center. An overhead track for the feed and litter carriers encircles the silo, the feed racks and the litter alley. This building will house fourteen cows or horses and a good-sized flock of sheep.

What will appeal to many farmers, however, is its attractive and novel appearance. The cross-section thru the stalls shows the method of framing and the materials to be used. The building is set on a 10-inch concrete foundation, extending four feet six inches below grade. The walls are 12 feet six inches to the roof line, while the silo in the center is 40 feet high.

The feed racks for the sheep are movable and are constructed by the carpenters as a part of the building job. In the plan they are placed directly under the carrier track, so that the work of feeding the flock is made simple. While this 14-sided barn is rather a novelty, it is attractive in appearance and will just suit the ideas and purposes of many farmers.



Floor Plan and Section Thru Stalls of Fourteen-Sided Barn.



Fourteen-Sided Barn, Designed to House a Herd of Sheep and Fourteen Cows or Horses. Such a Barn Is a Novelty that Will Appeal to Many Farmers and Which Makes An Attractive Addition to the Farm Building Group.

## How to Build at Pre-War Prices

HERE ARE SOME HINTS ON HOW TO MAKE A SMALL HOME OR APARTMENT PROVIDE THE ACCOMMODATIONS OF LARGER ONES, THUS SAVING MATERIALS AND LABOR.

To the Editor: Bremerton, Wash.

Have you anything in the following:

Apartment house designs or arrangement?

What does the public or average man and woman demand of an apartment house?

What is the most essential in arranging for an apartment house?

What to avoid in arranging for an apartment house?

About common sense in apartment house designs or arrangement?

How to make an apartment house attractive, comfortable and desirable, at same time run it as economically as possible?

E. KLINGHEIMER.

**R**EMEMBER the old-fashioned parlor? Recall the room with the uncomfortable horse-hair furniture, the brussels carpet, the family portraits and the what-not in the corner—the room that was opened only when there was company?

"There ain't no such animal" any more, for the simple reason the rooms in a modern home must work all the time, or they get "fired." Slackers they were, and Americans nowadays have no use for anything that does not give a maximum of service.

Parlors have given way to the living room, which, in the days of the former, was called the sitting room. It was here that the family circle gathered, and it was this room that gave the maximum of service. Hence its retention.

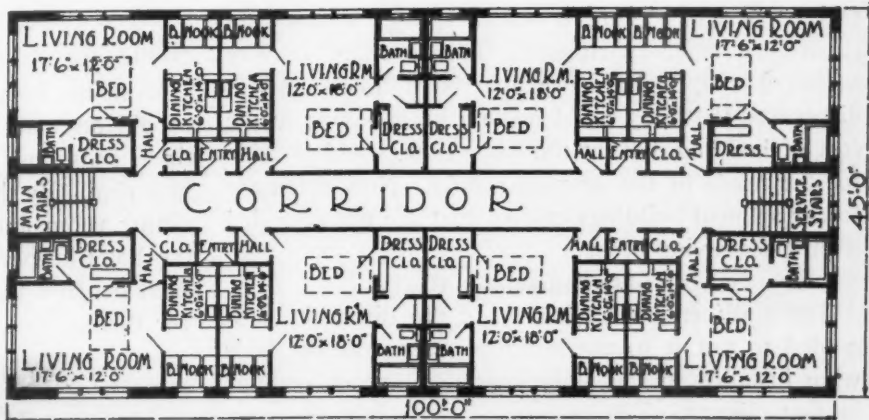
The present-day designers of homes have been going a step further during the last few years. They have made the living room work 24 hours a day instead of 14 or thereabouts that it did formerly. They have eliminated the bedroom, because it did not give enough service to pay its cost.

### Saving the Cost of Two Rooms

It is estimated that at the present cost of building a room costs about \$1,000. Save a room and that amount of money is saved. Save two rooms, and the cost of building has been reduced double that sum.

That's how the home builder of today is building at pre-war prices.

This room saving has been accomplished by space-saving beds—beds that work at night, but do not take up valuable space in the day time.



Floor Plan of a Modern Apartment Building. Each Apartment Has Only Two Rooms but the Efficiency of Four, by the Use of a Space-Saving Bed and the Living Room for a Dining Room. Such a Building Saves the Owner the Cost of the Extra Rooms and Gives the Tenant a Modern Home.



Perspective of the Modern Type of Apartment Building. This Building Contains Twenty-two Two-Room Apartments, Eight on Each of the Upper Floors and Six in the Half Basement. Thru the Use of Space-Saving Beds and by Eliminating the Dining Room Each of These Apartments Has the Efficiency Found in a Four-Room Apartment.



By their use the living room performs the functions that gave it its name, and in addition at night takes over the duties of a bedroom.

The dining room, too, that works on an average of three hours a day, when used for the purpose of "feeding the brute," is now made to serve the purpose of a bedroom. Then by the addition of a good-sized living porch, with a space-saving bed installed, three rooms and the living porch provide for the family that really needs six rooms.

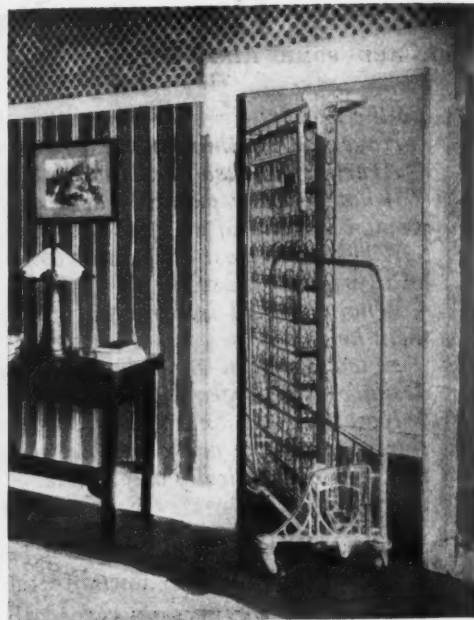
The space-saving bed originated in California several years ago. There it was first used almost exclusively in small apartments. Then it found its way eastward and thru its use apartment house owners discovered that they could make a great saving in the cost of building, but, at the same time, could provide for the needs of the average family. Now there are few apartment buildings erected that are not provided with space-saving beds.

#### Used in Bungalows Also

The Californians having made the discovery proceeded to put it to another use. Space-saving beds were installed in the bungalows that are so popular in that climate. The easterners again followed suit.



The Space-Saving Bed that Is Hinged to the Door Casing and Swings Into the Closet.



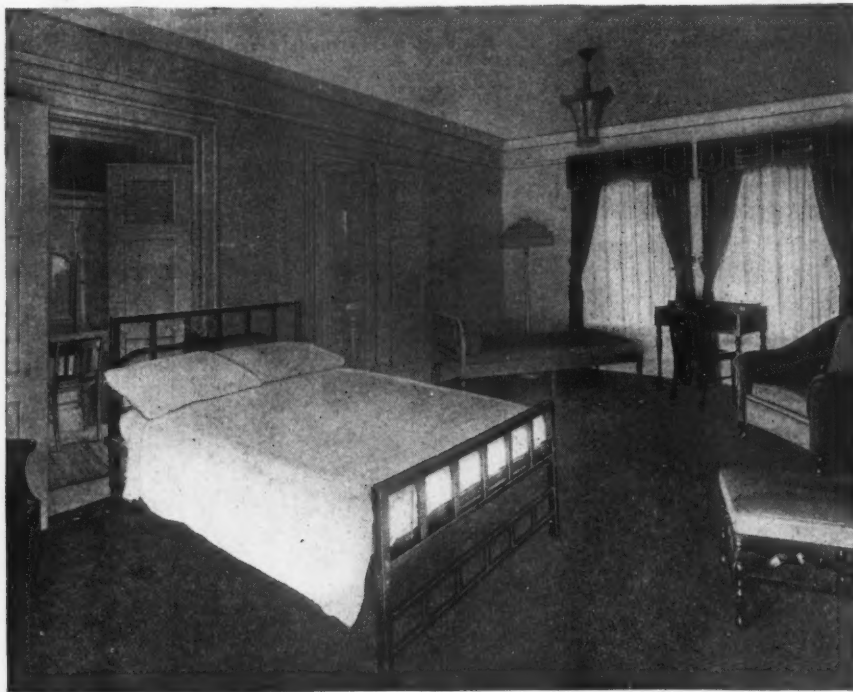
The Bed that Is Mounted on Rollers, Turned Up and Pushed Into a Closet.

Three and four-room bungalows with five and six-room efficiency are now common.

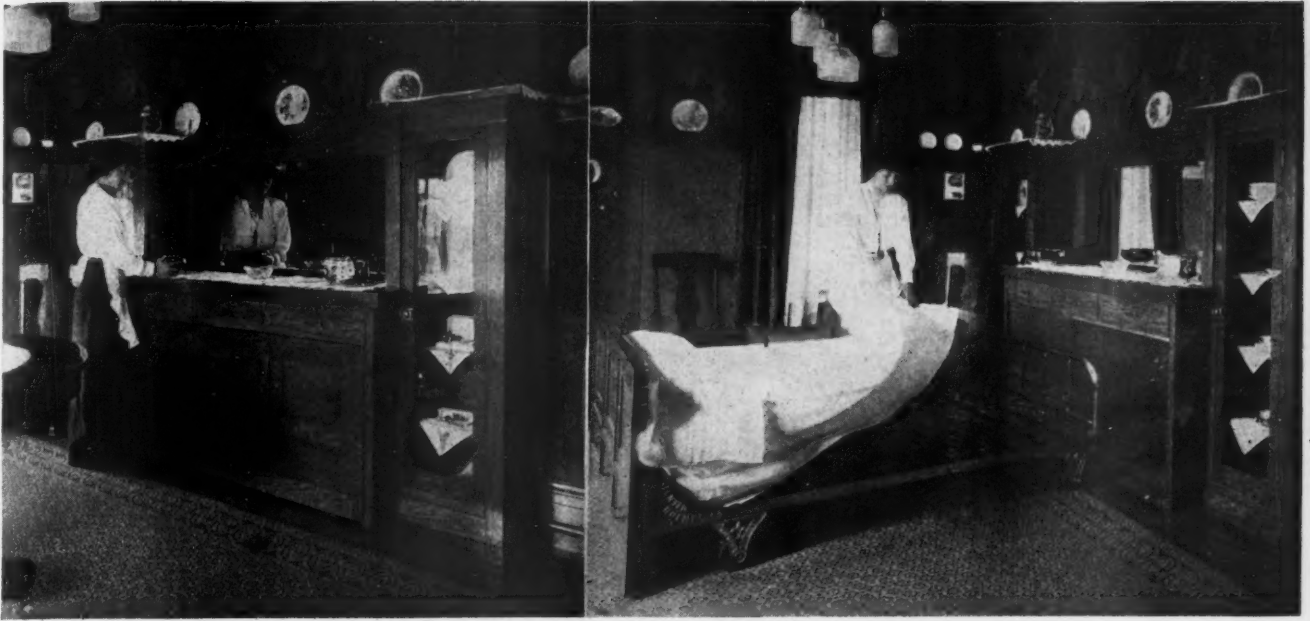
Even the hotels have adopted the idea—the rooms of old ones are being remodeled and equipped with these beds and the new ones are being built on the new plan. By their use the guests have a combination sitting room and bedroom. What makes a hit with the hotel keepers is the fact that these rooms are in such demand that they can and do get a higher rate for them.

#### Saving Space With Space—Saving Beds

There are several types of space-saving beds. One is hung to the door jamb and swings into a closet. When out in the room it is lowered and may be either a full-size, three-quarters or a single bed. Another tips up on end in a recess in the wall and is concealed by double doors. A third is hung on the back of a door that turns on a center pivot. By turning the door the bed appears, and by a similar operation it disappears. The side that normally is in the room is either a plain door that matches the woodwork, is glazed or has a bookcase or writing desk attached to it. A fourth type is concealed under the buffet in the dining room, the head being a lower panel of the buffet when the bed is out of sight. A bed that tips up on end and is mounted on rollers, which permit its being easily put into a closet during the day, is still



This Room Is No Slacker. A Spacious Living Room by Day, It Is Turned Into a Bedroom at Night by the Use of a Space-Saving Bed, Thus Working Twenty-four Hours a Day. This Is the Type of Bed Hung to the Door Jamb.



Showing the Space-Saving Bed that Is Concealed Underneath the Buffet in the Dining Room. To Accommodate this Bed the Floor is Raised in the Closet or Bathroom Adjoining the Dining Room.

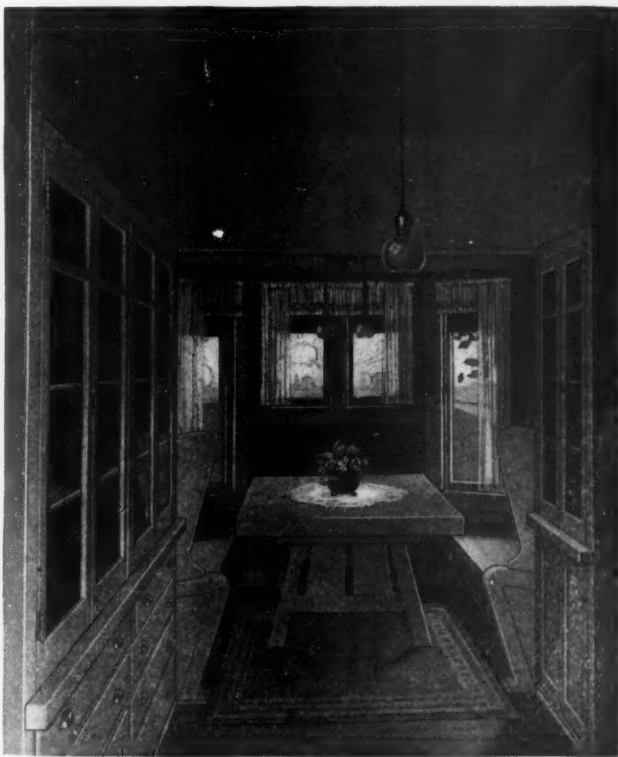
another kind. And there is the bed that is built to roll sideways into the wall so as to provide a couch in the room.

#### Special Construction for Space-Saving Beds

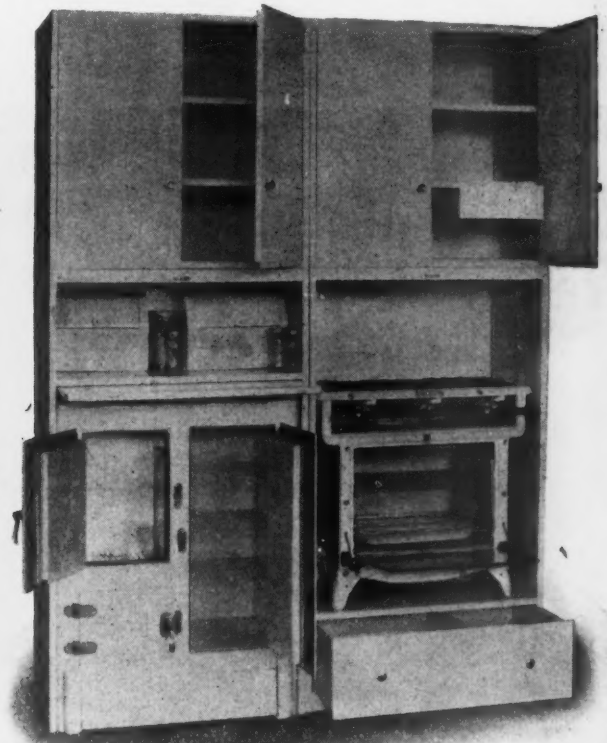
With the exception of the bed that rolls into the closet, these beds must be provided for in the original construction of the building, or the room remodeled so as to provide the necessary space for them. The closet must be large to accommodate the bed and to permit access to the clothing that is stored in it. In

apartments this closet usually is large enough to install a dresser, and serves as a dressing room. In the best type of construction, these closets are provided with a window or some other method of ventilation, which gives the added advantage of being able to ventilate the bed during the day.

Another space saving idea is the breakfast nook, so-called, that is in reality the dining room for a small family. This nook has a small rectangular table and built-in seats on either side, and is in a nook adjacent



A Breakfast Nook Is Convenient, Especially When One End of the Large, Modern Living Room Is Used as a Dining Room. Here the Family May Eat Cosily and Comfortably, and Save the Space Taken Up by the Dining Room, which Is Used Only Three Hours a Day.



This Shows How the Kitchen Equipment May Be Consolidated. Here Are the Gas Range, Utensil Cupboard, Kitchen Cabinet and Ice Box Brought Into the Smallest Possible Space in a Steel Cabinet.





Space-Saving Bed Hung on Back of Door as It Appears When Down Ready for Use.

to the kitchen. When more space is needed one end of the living room is used.

#### Cutting the Size of the Kitchen

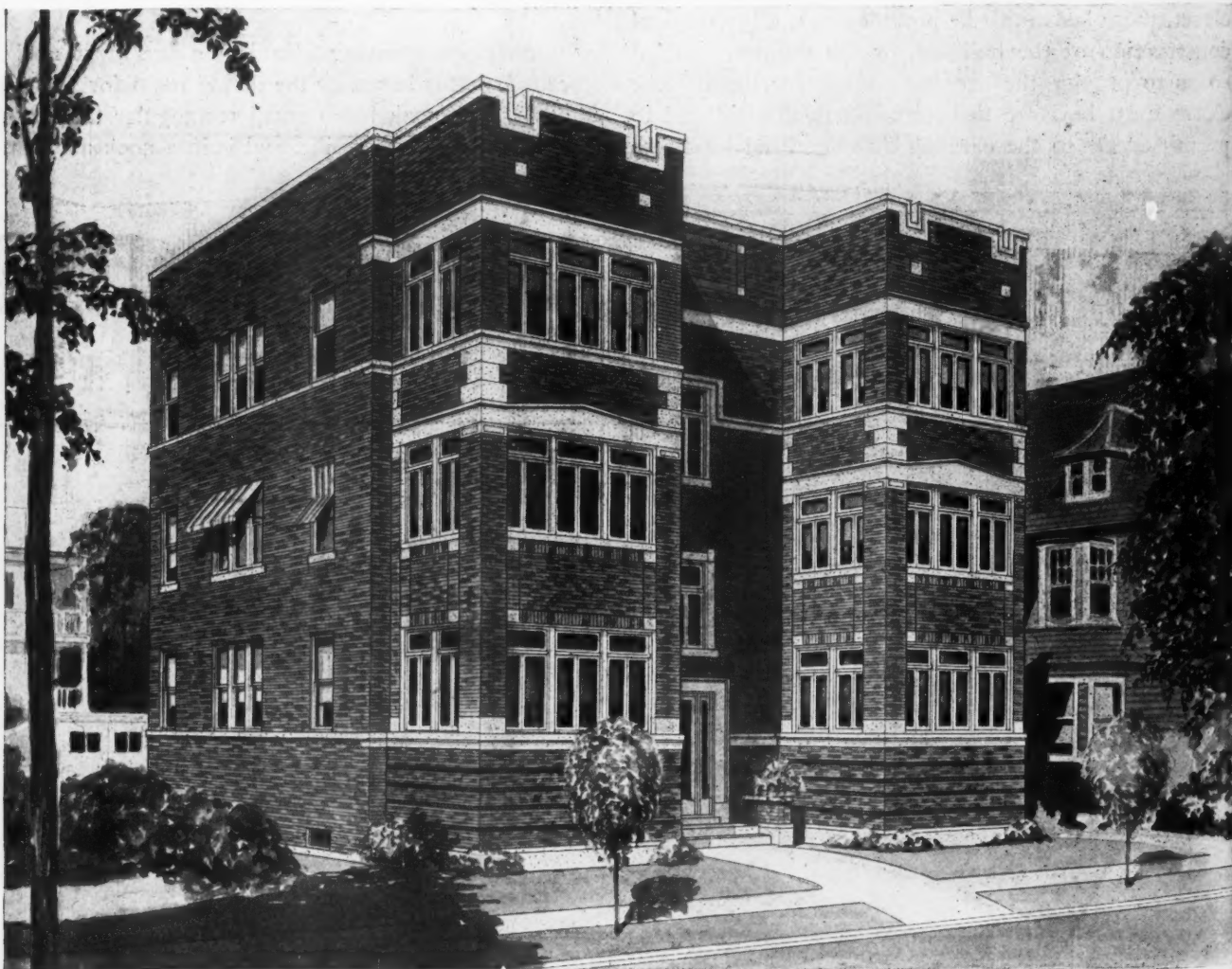
The kitchen, too, is growing smaller every day. There is no economy in providing a broad expanse of floor for no other reason than to make the worker take many unnecessary steps. This has been done by consolidating the kitchen equipment into as little space



The Same Space-Saving Bed, Showing How It Is Hung and Operated.

as possible and then providing special furnishings.

Such a piece of equipment is a steel cabinet with the gas range set in the lower part and closet space for cooking utensils overhead. A companion piece has the ice chest in the lower part and a kitchen cabinet above. The walls of the cabinet about the stove are insulated. This cabinet requires special construction, so as to provide the necessary flue for the stove.



THREE-STORY BRICK AND TERRA COTTA APARTMENT BUILDING, plans for which are shown in the BLUE PRINT SUPPLEMENT FOLLOWING. Pages 2, 3 and 4 contain alternate floor plans, showing arrangement and construction details for the installation of space-saving beds in a building of this design.



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Architectural drawing of a three-story building facade, showing terra cotta and brick details. The drawing includes labels for "TERRA COTTA", "BRICK PANEL", "CEMENT STEPS", and various dimensions. It also features vertical and horizontal grid lines labeled "A", "B", and "C".

**Labels:**

- TERRA COTTA (multiple locations)
- BRICK PANEL (multiple locations)
- CEMENT STEPS

**Dimensions:**

- Vertical dimensions on the right: 9'0", 9'0", 9'0", 7'0"
- Vertical dimensions on the left: 10'6.3", 5'3.5", 5'3.5", 10'6.3"

**Grid Lines:**

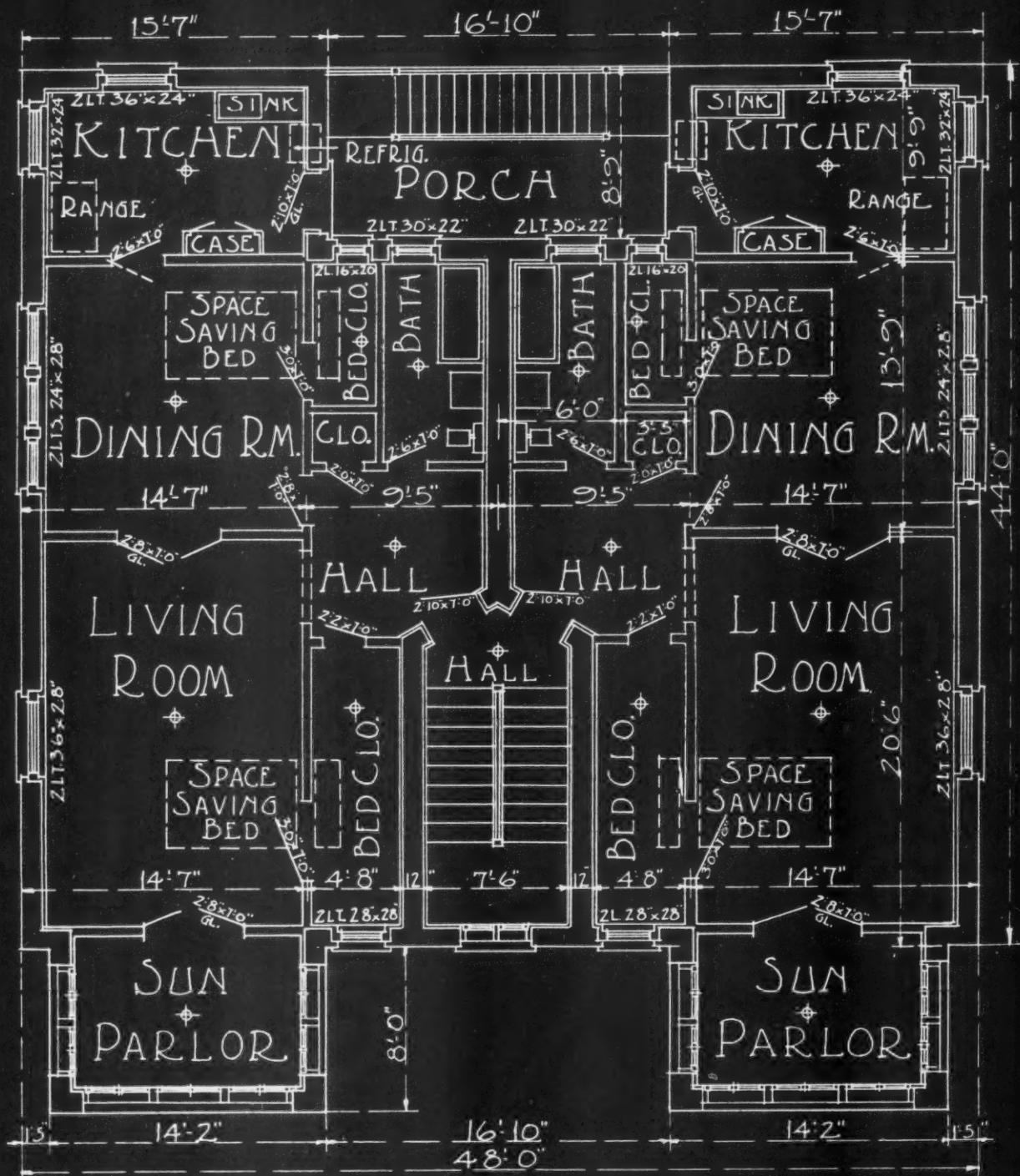
- Vertical: "A", "B", "C"
- Horizontal: "A'", "B'", "C'" (on the left side)

SCALE  $\frac{1}{8}"=1'-0"$

# SPACE SAVING BED APARTMENT BUILDING



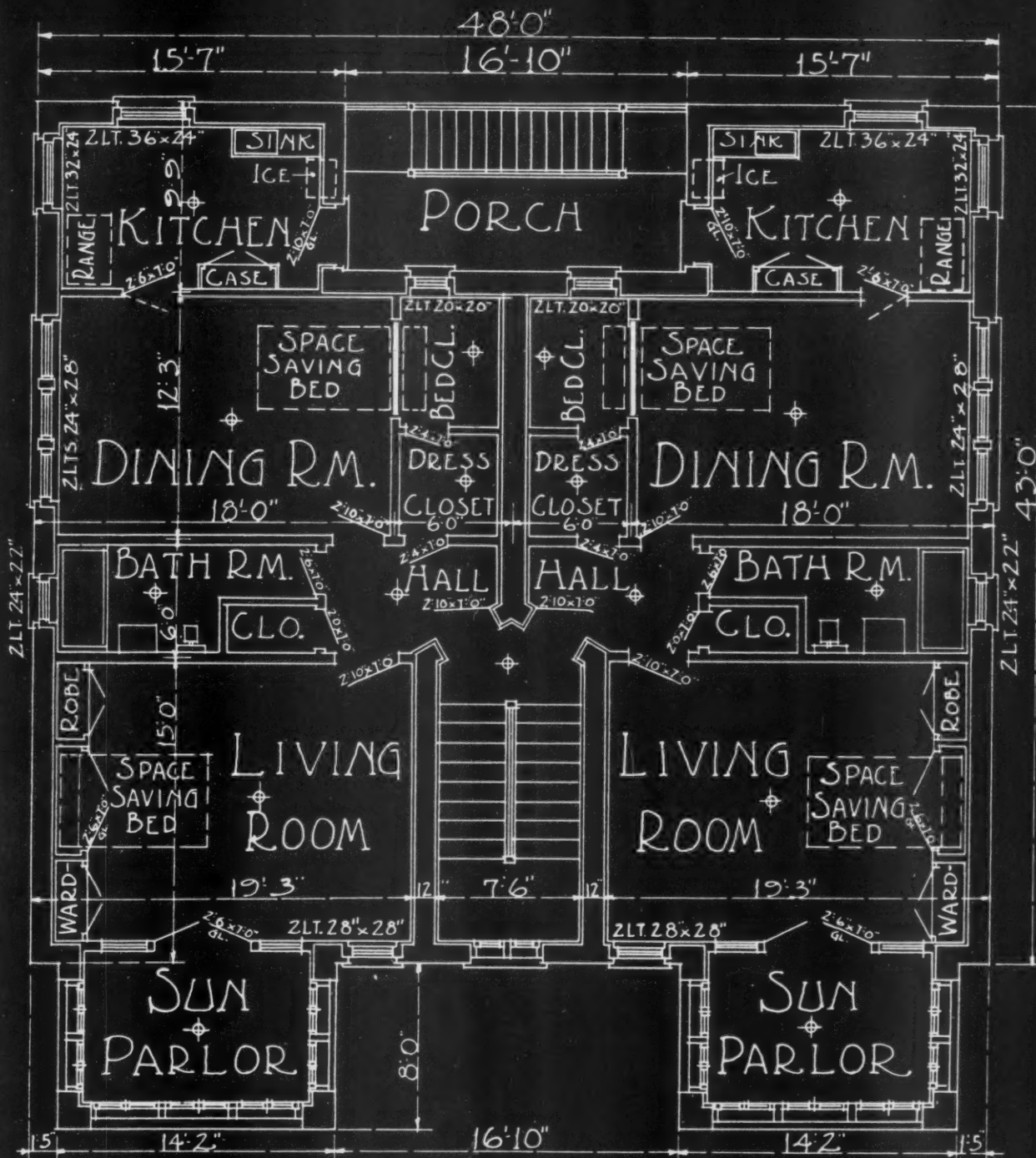
# AMERICAN BUILDER BUILDING PLANS



TYPICAL FLOOR PLAN N<sup>o</sup> 1  
 SCALE  $\frac{1}{8}" = 1'-0"$

SPACE SAVING BED APARTMENT BUILDING

# AMERICAN BUILDER BUILDING PLANS



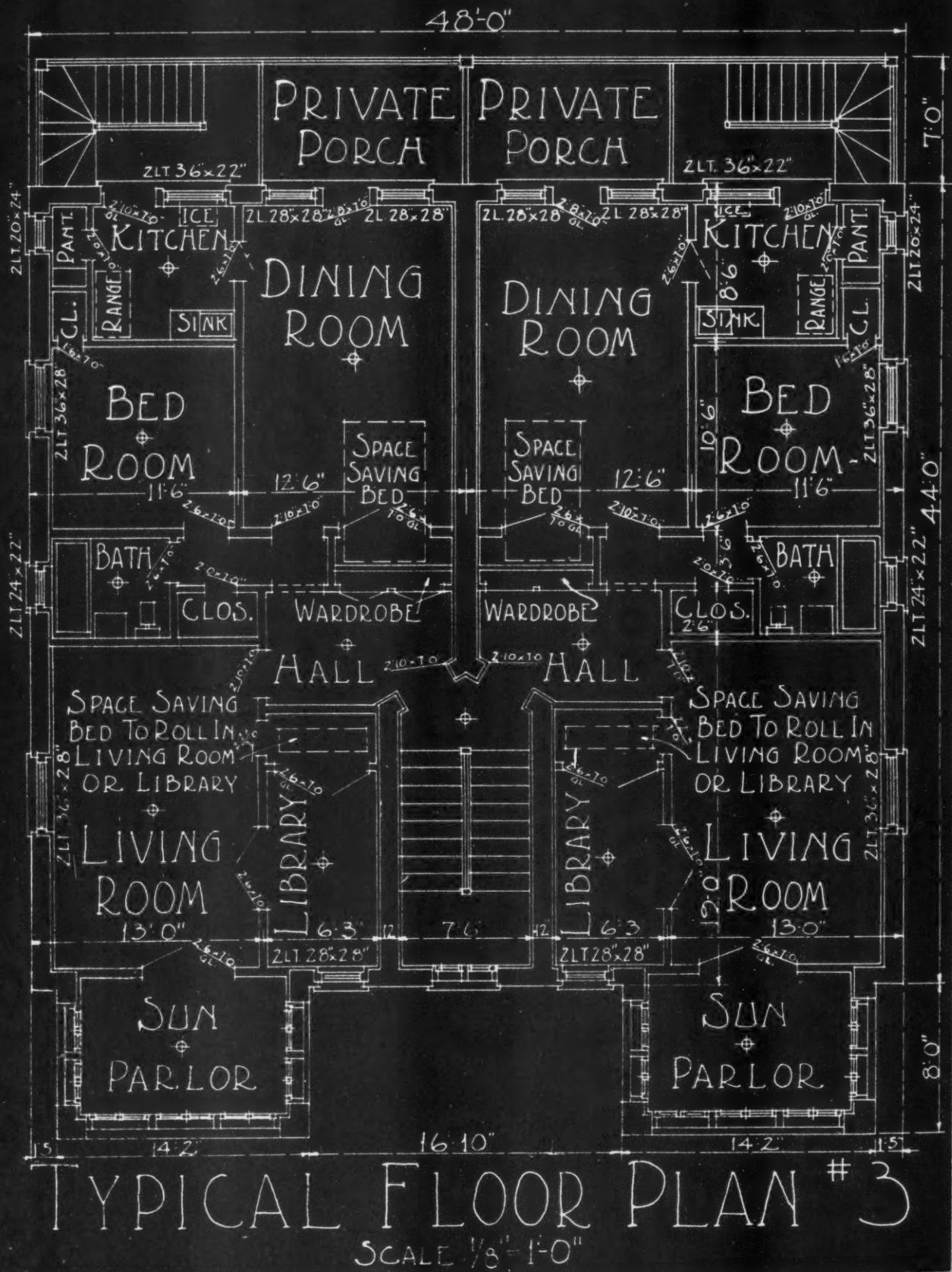
# TYPICAL FLOOR PLAN #2

SCALE  $\frac{1}{8}" = 1'-0"$

# SPACE SAVING BED APARTMENT BUILDING



# AMERICAN BUILDER BUILDING PLANS



# SPACE SAVING BED APARTMENT BUILDING







## World's Largest Arena for Willard-Dempsey Bout Will Seat 80,000 People

**I**T takes a sawmill and miles of lumber to stage a championship prize fight these days.

At the site of the Willard-Dempsey arena, in the suburbs of Toledo, Ohio, where two claimants for a world's fistic title will battle July 4, a big construction job is under way. Eighty thousand people are expected to witness the contest, and to accommodate this immense crowd the largest stadium ever built for a prize fight is now rapidly taking shape.

A million and three-quarters feet of Southern pine lumber is required for the erection of the stadium, which is half a mile in circumference and 600 feet across, with a maximum height of 35 feet from the bleacher seats to the ground. This lumber would be sufficient to build a board walk three feet wide and 110 miles long. To transport it to Toledo from the pine forests of the South 87 heavily loaded freight cars were required. A small sawmill has been set up in the 24-foot ring to cut the lumber to lengths. Hundreds of carpenters and other workmen are engaged on the job.

This is the second of the great arenas erected in this country in recent years for a prize fight, the first hav-

ing been at Reno, Nevada. The Reno stand was also built of Southern pine.

The accompanying illustration was made from a photograph taken about three weeks previous to July 4. The working force after that time was greatly increased, some 3,000 men being employed during the closing days of the construction work. It was not expected that the seats would all be in place until the morning of the day of the bout.

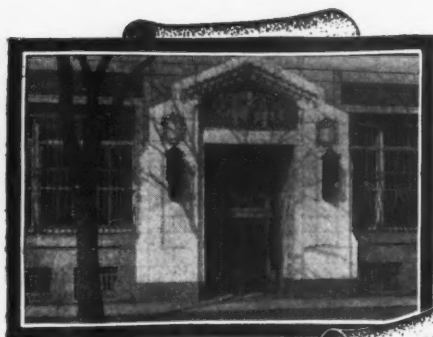
The experience gained in constructing the army training camps helped considerably in putting up this great arena. Portable power saws were distributed over the site, augmenting the central sawmill. They saved much time of the carpenters.

It was expected that the 80,000 spectators would pay in the neighborhood of \$500,000 to witness the contest between the champion and the challenger for his title. As the largest of the baseball parks seats only about 35,000 people, it will be realized that the construction of the arena was not a small job. Work was started about six weeks before the date set for the bout, and continued up to the last minute. The cost of the arena, which is called "Bayview Bowl," was approximately \$150,000.



View of the Arena for the Bout Between Willard and Dempsey, at Toledo, Ohio, July 4. This Photograph Was Taken Three Weeks Previous to the Date and Shows the Framework on which the Seats Were Laid.





# ALL SORTS OF BUILDING PLANS

## Larger Building Projects Now Are Being Planned

DESIGNS FOR TOWN HALL, STORE AND OFFICE BUILDING, PUBLIC GARAGE AND TWO SCHOOL BUILDINGS  
WILL HELP ARCHITECTS AND BUILDERS IN THIS FIELD

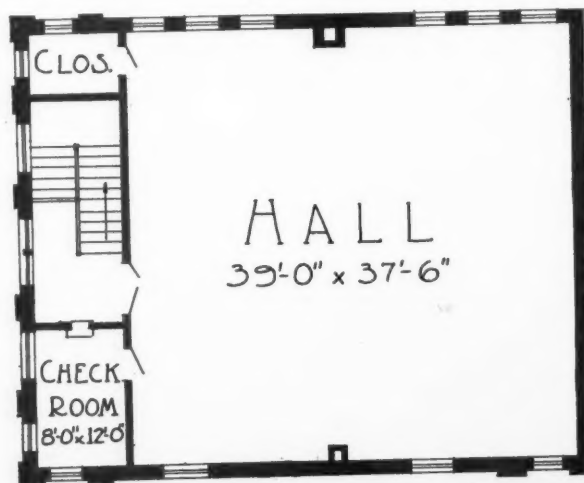
THE larger building projects, such as public and semi-public buildings, store buildings, public garages, office buildings and industrial plants, now are being planned and construction work will go forward rapidly. These buildings are needed, and property owners are realizing that they are losing money by putting off getting them erected and earning incomes.

The building industry, which so far this year has been occupied with home building, will profit by the increased activity in this larger field. Architects have a strong demand for designs and contractors will be asked to submit bids for buildings of this character, which means that material men will have an enormous amount of profitable business during the next few years.

### A Wide Range of Designs for Large Buildings

In this department, "All Sorts of Building Plans," which was resumed last month after a lapse of more than a year, due to the restrictions on building, the readers of the AMERICAN BUILDER each month will find designs and suggestions that will aid them in securing this larger construction work. While it is not possible to give as large a variety of plans each month as the Editor would like, during the next twelve months

there will be shown a great number of designs for office buildings, churches, theaters, store buildings, public garages, school houses, industrial plants and the like. By preserving these designs, contractors, archi-



SECOND FLOOR PLAN

Second Floor Plan of Town Hall.

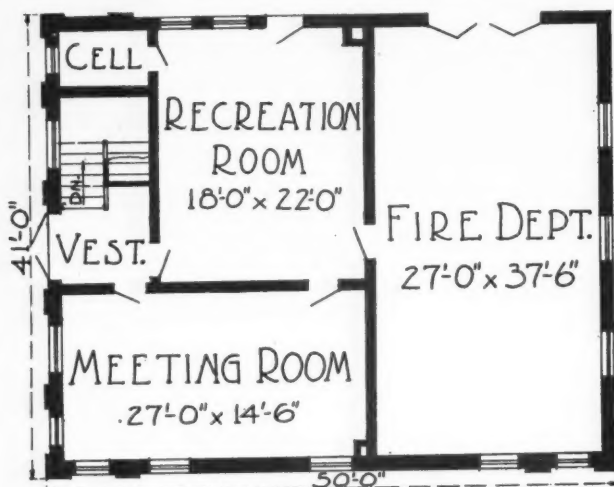
itects and material dealers will have a number of fine designs, which they will find valuable in designing and building this type of buildings.

"As a man thinks, so is he," some philosopher has said.

Men who do big things have their minds focussed on projects that never occur to the ordinary individual. This is true in the building industry. Many contractors fight shy of a big building job, because they never before have done anything so large. It is this mistake that keeps them out of the larger field of building operations. Once in it, they are there to stay, as building a large building is no different than building several smaller ones.

### Five Good Plans This Month

In the following pages of this section will be found good designs of several sorts of buildings. On the following page is a design for a small town hall—the kind that is erected in towns and cities up to 10,000 in population. On page 53 is a design for a cor-



FIRST FLOOR PLAN

Plan of the First Floor of Town Hall.

ner store building with offices above; on page 86 is a good-sized public garage, and on the last two pages are school building designs, one large and the other small.

These designs give the architect and builder some real usable ideas on buildings of these kinds. They were designed by experienced, licensed architects and embody the best features of up-to-date architectural practice. The designs shown this month will be followed with those of similar buildings—the kind that are now being planned and will be erected in towns and cities of all sizes.

The AMERICAN BUILDER policy has always been to be constructive, instructive and inspirational. Its constructive work has been to promote building of all kinds; its instructive work has been to show its readers how to design and build; its inspirational work is to point out the ways to greater success for its readers.

buildings; industrial plants are back to peace-time production and are preparing to increase their output and need more room; the "movies" never were so popular, and theaters that cater to the masses are increasing in number rapidly; space in office buildings is at a premium, and investors are realizing that this is a profitable field.

Couple this activity with the great amount of home building and the building industry has a most promising and profitable immediate future.



### Design for a Brick Town Hall

IN the smaller towns the town hall contains both a meeting place for the city officials and space for the fire department apparatus and the town lock-up, or jail. The design shown embodies all the features that are required for such a building. The brick and terra



**TWO-STORY BRICK TOWN HALL.** This design embodies all the features that are required in the smaller communities. It is of standard brick construction with terra cotta trim. The dimensions of the building are 41 by 50 feet. On the first floor are the fire department, a meeting room, recreation room and a single cell. On the second floor is a hall, extending over nearly the whole building.

This policy will always be continued—action, not reaction, is the AMERICAN BUILDER motto.

### Strong Forces at Work For Us

As has been pointed out before, there are many and strong forces at work in the United States to promote public building of all descriptions. Municipal officials are planning that city or town hall that was proposed before the war; schools and churches will be built; merchants are ready to go ahead with those new store

cotta exterior and the irregular cornice line are attractive features of the perspective. The floor plans on the preceding page show the interior arrangement. The dimensions of the building are 41 by 50 feet. Space for the fire department apparatus, a meeting room, recreation room and a single cell are provided on the first floor, while on the second is a large assembly room. This design was made for a city of 3,000 people. It is equally good for places slightly larger or smaller.

## Designs for a Large and Small Modern School Buildings

**P**LANS for school building construction now are being made in practically every community. School buildings are needed and needily badly; construction of public buildings of all sorts is being urged by the Federal government and state and local officials. School building will be a considerable part of the building activity in the immediate future.

On this page is shown a design for a two-story and basement ten-room school building with an assembly hall. This is a strictly modern design and in it are embodied features that have been found to give the best service, while the building itself is planned to insure the safety of the children. The same is true of the one-room school shown on the following page. The latter is a model for smaller school districts.

In most states regulations governing school building construction are rigid. The plans for both these buildings conform to these regulations.

It will be noted that provision is made for the proper lighting and ventilation of both of these buildings, which are important school building features. In the larger design, the room arrangement is compact, and each class room is large.

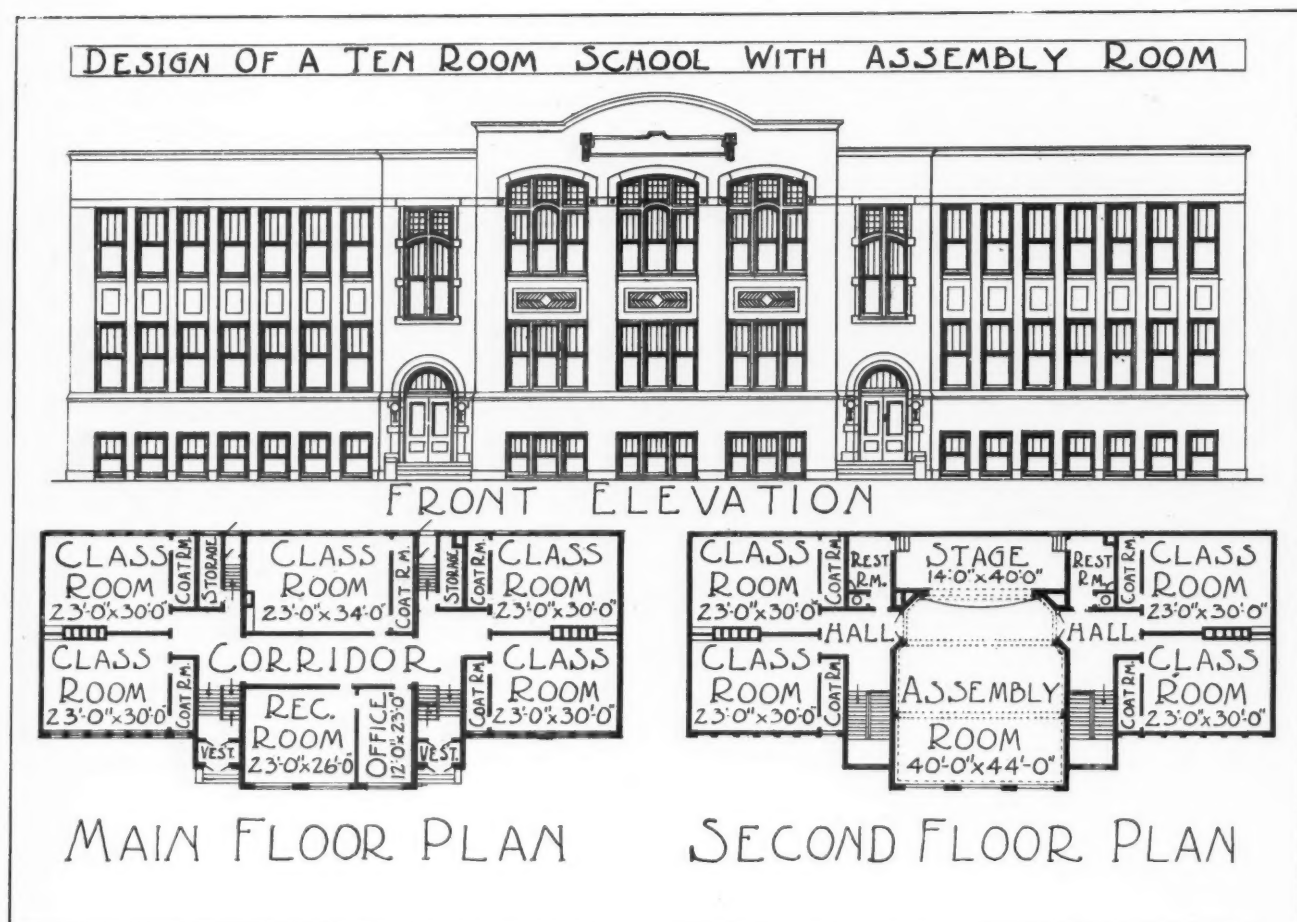
These are two excellent school building designs for contractors to study and present to their local school boards.

Fire-proof construction is demanded in most school buildings of more than one story, consequently they are either of solid brick or brick and hollow tile. The foundations invariably are of concrete, with concrete floors and walls.

Heating and ventilating systems both must be efficient, as the health of the children is essential. In planning school buildings, these features are given a great deal of consideration.

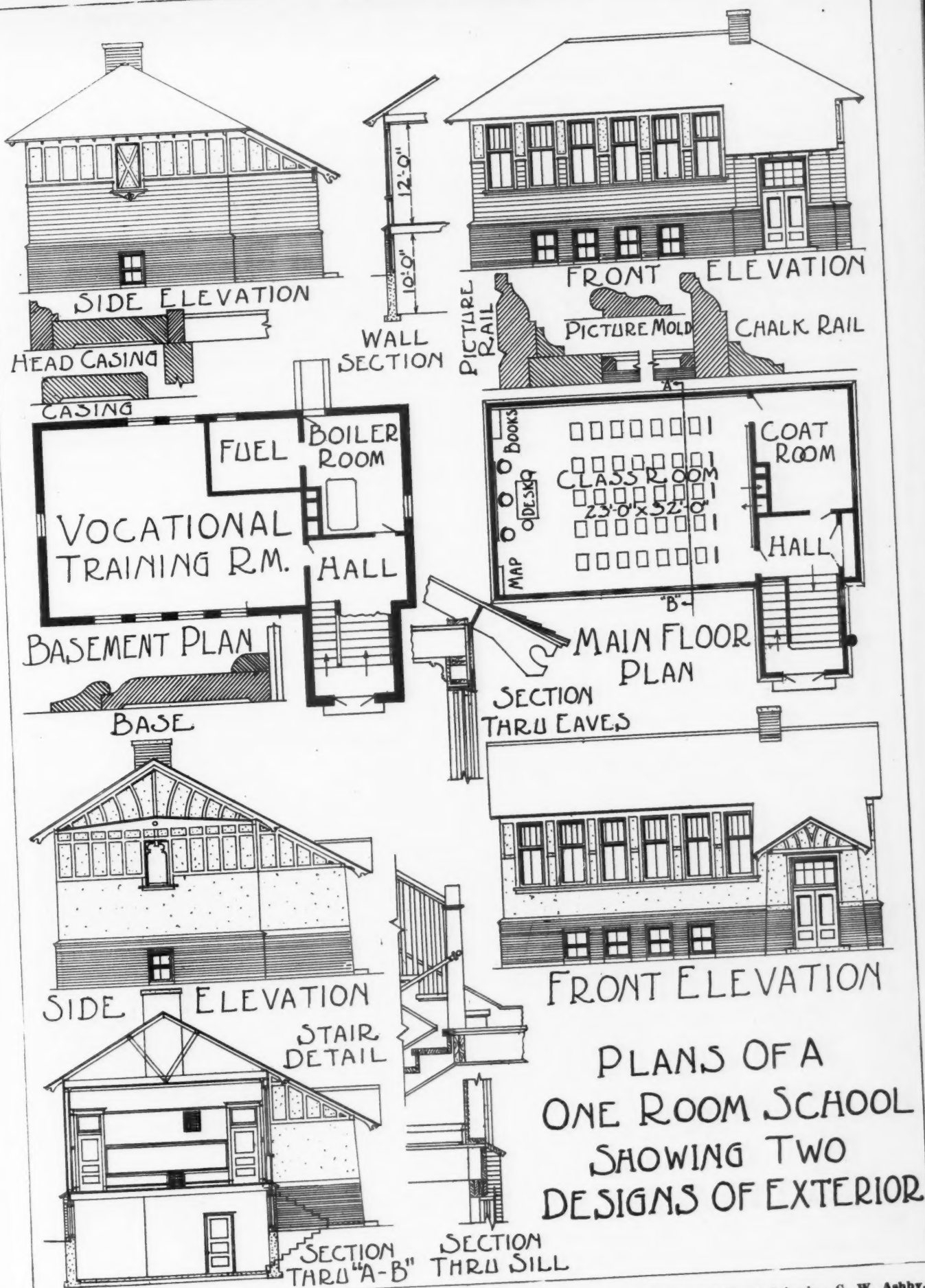
The assembly hall in the ten-room building is a feature that is notable. The stage is of good size, 40 by 14 feet, and the auditorium is 40 by 44 feet. The rest rooms on either side of the stage are turned into dressing rooms when occasion requires. The class rooms are arranged around a corridor, with the principal's office centrally located at the front.

Both of the designs shown here were drawn by one of the foremost school architects, and can be recommended with confidence.



Front Elevation and Floor Plans of a Two-Story and Basement Ten-Room School Building With an Assembly Hall. This is the Type of School Building that Will Be Erected in Many of the Larger Towns and Cities this Year. G. W. Ashby, Chicago, Architect.





Plans and Details of a One-Room School Building. This is the Modern Design for Small Towns and Rural Schools. G. W. Ashby, Chicago, Architect.

## Design for a Good-Sized Public Garage

**F**IRE-PROOF construction is one of the prime requisites for a public garage. The value of the vehicles that are housed in it and the abundance of both oil and gasoline require that there being nothing inflammable about the building itself. For these reasons public garages are built of either brick, hollow tile or concrete.

Herewith is illustrated a perspective and floor plan for a brick garage. The dimensions of the building are 60 by 126 feet. The front of the building is attractive, the trim being of terra cotta, which, together with the soldier courses, and panel work add to the exterior beauty of the structure.

On either side of the entrance, which is closed with folding swinging doors, hung to an overhead track, are the office and display room.

The floor, of course, is of concrete. The roof is supported by trusses, thus doing away with posts; and light is obtained from five skylights. At the rear are the boiler and fuel rooms.

By partitioning off a portion of the rear of the building a workroom

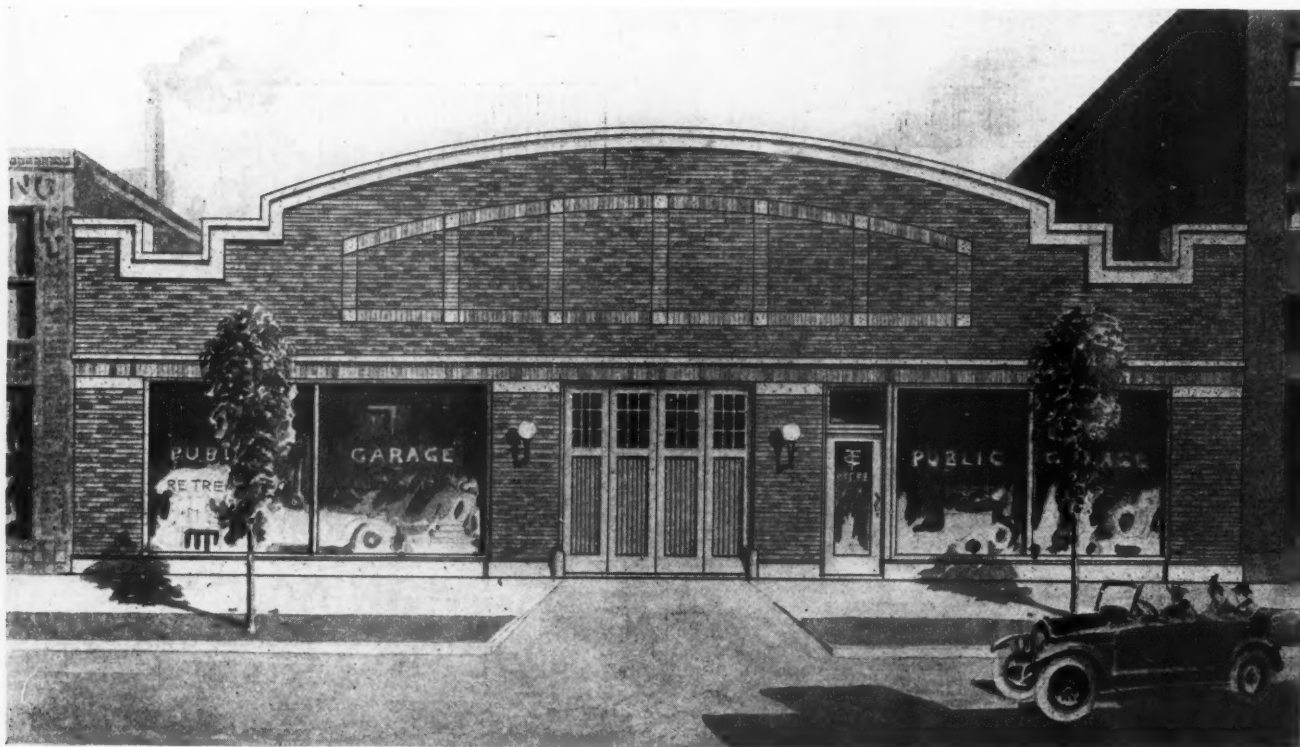
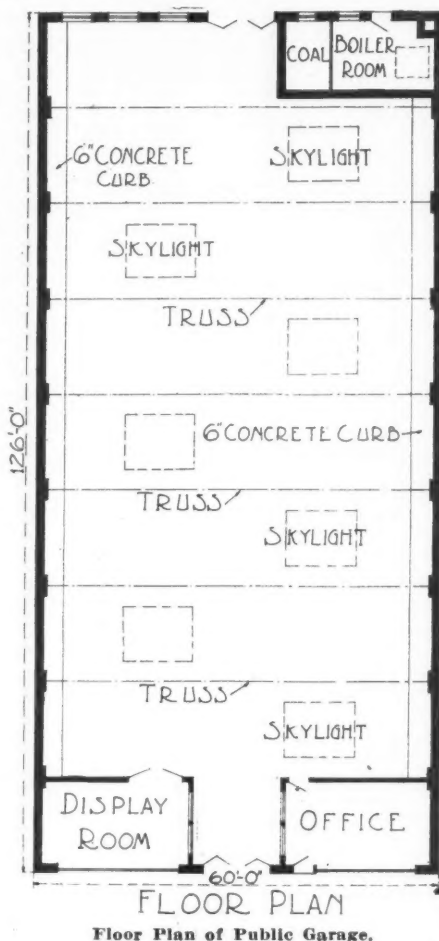
is provided for a machine shop and repair department.

There is a great demand for public garages everywhere. The increasing number of automobiles and tourists make the business of repairing cars and selling accessories and parts a profitable one. New garages constantly are being erected. This design is excellent as it contains the features that are wanted by garage owners.

It will be noted in the floor plan that a six-inch concrete curb runs around the interior of the walls. This is an important feature, as it not only prevents the cars from being backed against the walls, but protects the walls themselves. The width of the building allows for a row of cars to be ranged along either side and at the same time gives room for cars to pass thru the center of the building.

The trusses that support the roof can be of wood or steel.

The several up-to-date and practical features combined in this public garage design make it one that can be recommended to prospective builders of this type of structure with the assurance that it will give the highest satisfaction.



Perspective of Public Garage of Brick with Terra Cotta Trim.

Second of Three

# “Build now—”

## THE DEMAND

for building of every kind was never greater than it is today. Over crowded housing is the condition in all parts of the country.

Conditions are as normal now as they will be for some time. Let's get busy with the construction that the war has halted.

“Build now” the houses, offices, churches and schools the war stopped and make the United States a better place to live.

Prosperity comes only from industry and prosperous thinking.

Instill in the minds of your clients that to “Build Now” is to bring prosperity to the country and contentment to themselves.

Contractors and builders will do well to get this business now and get the lions share.



## THE STANLEY WORKS

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New York:  
100 Lafayette Street

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*“Use Ball Bearing Butts for Permanence”*



# OUT ON THE JOB



## What Builders Are Finding Good

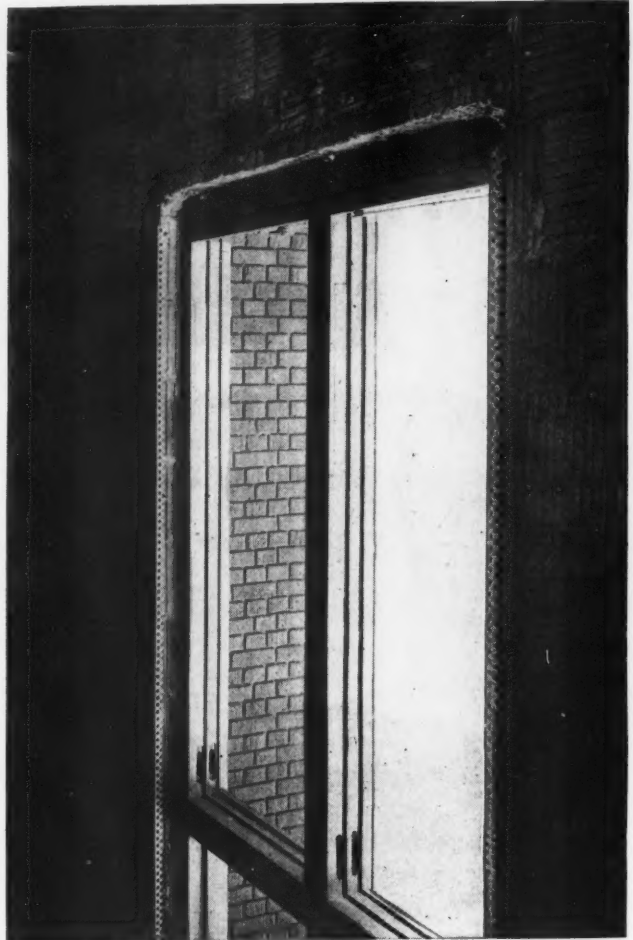
*Write the Editor for names and addresses.*

### Corner Beads Protects Plaster in Modern School Building

School buildings rarely are more than three stories in height, more architects preferring a two-story building. In the event of the building being more than three stories in height every construction method to make the building fire-proof is used.

The Central Extension School recently was erected in Milwaukee. It is a six-story building of hollow clay tile, with a face brick veneer. The two accompanying illustrations show the center entrance and the interior of the windows before the plastering was done. It will be noted that the only inflammable material used was the window frames. The plastering was done over the tile, with corrugated iron beads at the corners of the window openings. Van Ryn & Gilleke were the architects and F. W. Stephens the plaster contractor.

The use of beads at corners not only protects them, but provides the plasterers with grounds to which to work and prevents slurring, forming the angles with a brush and skinning the mortar coat. The bead used in the Central School has a wide flange or web, which affords nailing and wiring room, and for the same reason furnishes a more extended area for any shock. The keyholes for the mortar are ample. In this hollow tile construction the beads were held by nails driven into the mortar joints.



Corner Beads Were Used on All the Windows in the Central Continuation School, Milwaukee. The Picture Shows the Detail of the Interior of the Windows Above the Entrance.

Iron beads are now extensively used on corners as a protection against "nicks" and mutilation. They are made so that they expand and contract, which prevents cracking when the building settles.



### Painting with an Airbrush

One of the costly items of building is painting the structure, and, as every possible method now is used to construct buildings as cheaply as possible without cutting the quality, efficient, labor-saving devices are utilized in the exterior decorating.

During the last several years thousands of painting contractors have turned to the air-brush method of applying paint and have found that it not only cuts the labor cost materially but produces an excellent job. The accompanying illustration shows how the paint is put on and the equipment used to apply it.

This method of painting is an adaptation of the air brush that has been used by portrait artists in retouching enlarged photographs for many years. The paint is sucked thru a tube by compressed air and expelled by force, causing it to spread evenly over the surface of whatever is to be painted. The operator holds the spray head, which is much the shape of the modern automatic pistol, and controls the flow of air and paint with a trigger.

Mounted on a small cart is the gas engine and air compressor and tank. The paint is in the container that is shown on the ground underneath the staging on which the painters are working. As the compressed air passes thru the container, the proper quantity of paint is carried with it and is sprayed onto the surface to be painted. The nozzle is adjustable so that either a fan-shaped spray or a narrow spray is formed.



Detail of the Entrance to Milwaukee's Newest School Building.



## A Roofing Job to Be Proud Of

**T**HERE is great satisfaction all around upon the completion of a Johns-Manville Transite Asbestos Shingle Roof.

The owner is satisfied because he is getting an attractive, a fire-safe, durable roofing and a roofing on which the upkeep cost will be practically nothing because Johns-Manville Transite Asbestos Shingles will not rot or disintegrate, and therefore never need painting or costly refinishing.

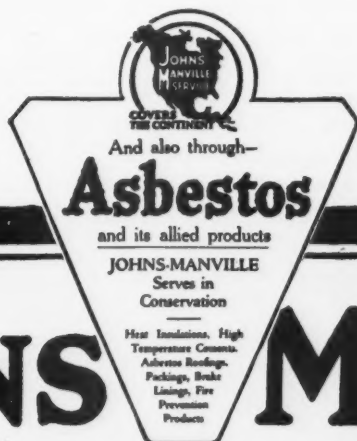
### *And They're Easy To Lay*

And you will have a deep satisfaction, not only because you have done a mighty fine job, but because it has been such an easy job.

Johns-Manville Transite Asbestos Shingles are easy to lay, and after your first job you will actually prefer them to any other form of roofing.

Take for example, the hexagonal method: this only requires 87 shingles 16" x 16" or 160 shingles 12" x 12" to cover 100 square feet of surface. This means rapid completion of your work. Write for booklet which explains the easy method of laying these shingles.

As more people are buying Johns-Manville Asbestos Shingles, more people will be laying them and you will want to know more about them. Send for the booklet today.



H. W. JOHNS-MANVILLE CO.  
New York City  
10 Factories — Branches in 63 Large Cities

# JOHNS MANVILLE

## Transite Asbestos Shingles



**It Takes Only a Few Hours to Paint a House by the Air-Brush Method.**

Cleanliness is one of the features of this method of painting. There is no dripping of the liquid and practically no waste. Oil paints, mill white, fine coats and enamels, asphaltums, flat wall paints and other like materials are sprayed on stationary work of all kinds. One coat applied by this method usually is sufficient and will cover rough brick, concrete and stucco surfaces completely and uniformly. There are no skimmed places, laps or brush marks left.

Experienced painters are able to do five times as much work with a sprayer as can be done by hand brushing. From 500 to 1,000 square feet can be covered in an hour and all places difficult to reach with a brush are easily and quickly covered with the spray. Besides the work is less tiresome.

This is one way to cut the cost of building.



### **Portable Boom Hoist in Use in the Material Yard**

A boom hoist, mounted on a truck, is a useful part of the

equipment of a lumber or building material yard. There are several different kinds of heavy materials that require handling, often several times before they are in place in the building, and such a hoist does the work quickly and economically.

Greene & Wood, lumber dealers, at New Bedford, Mass., have such a hoist, and find it valuable in moving such heavy materials as sill timbers. The hoist in operation at the rail-

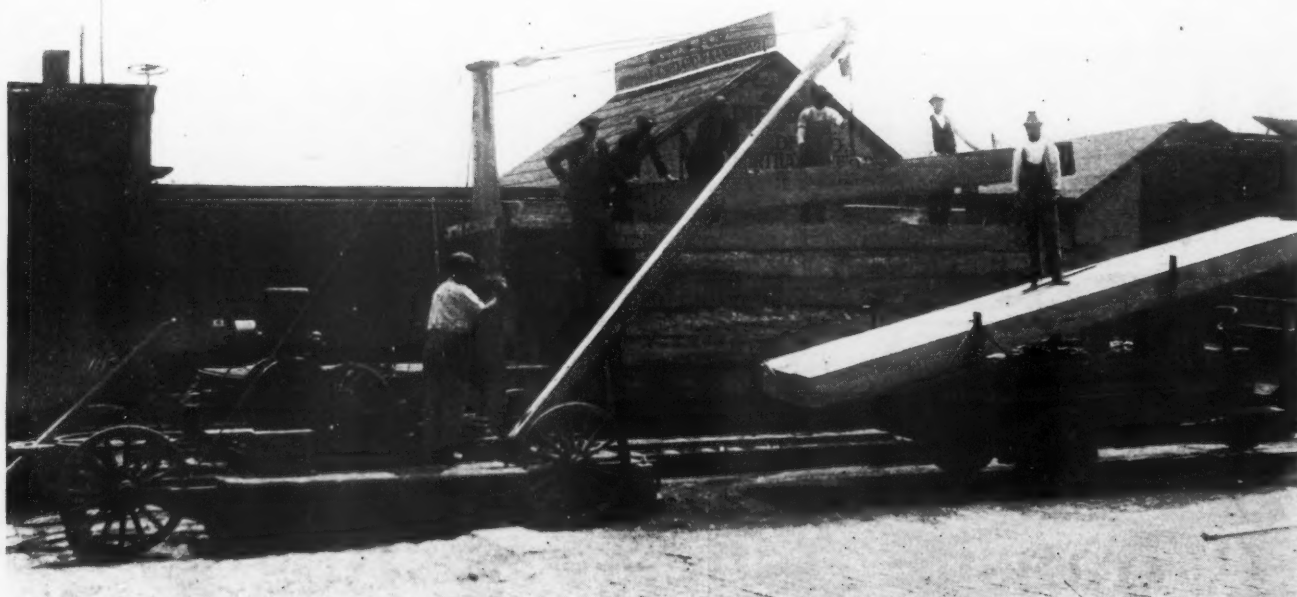


**The Boom Hoist Mounted on a Truck of Greene & Wood, New Bedford, Mass.**

road siding unloading timbers from a flat car onto a motor truck is shown in one of the accompanying illustrations, while the other shows it at work in the firm's yard.

The truck on which the engine, hoist and boom derrick are mounted is underslung on the axle of two sets of wheels. The front wheels are hung on a fifth wheel, so that the truck may be attached to a motor truck and transferred from place to place. When it is in position to operate it is blocked up. The weight of the engine and hoisting drum give it ballast.

Another interesting feature shown by the picture is the

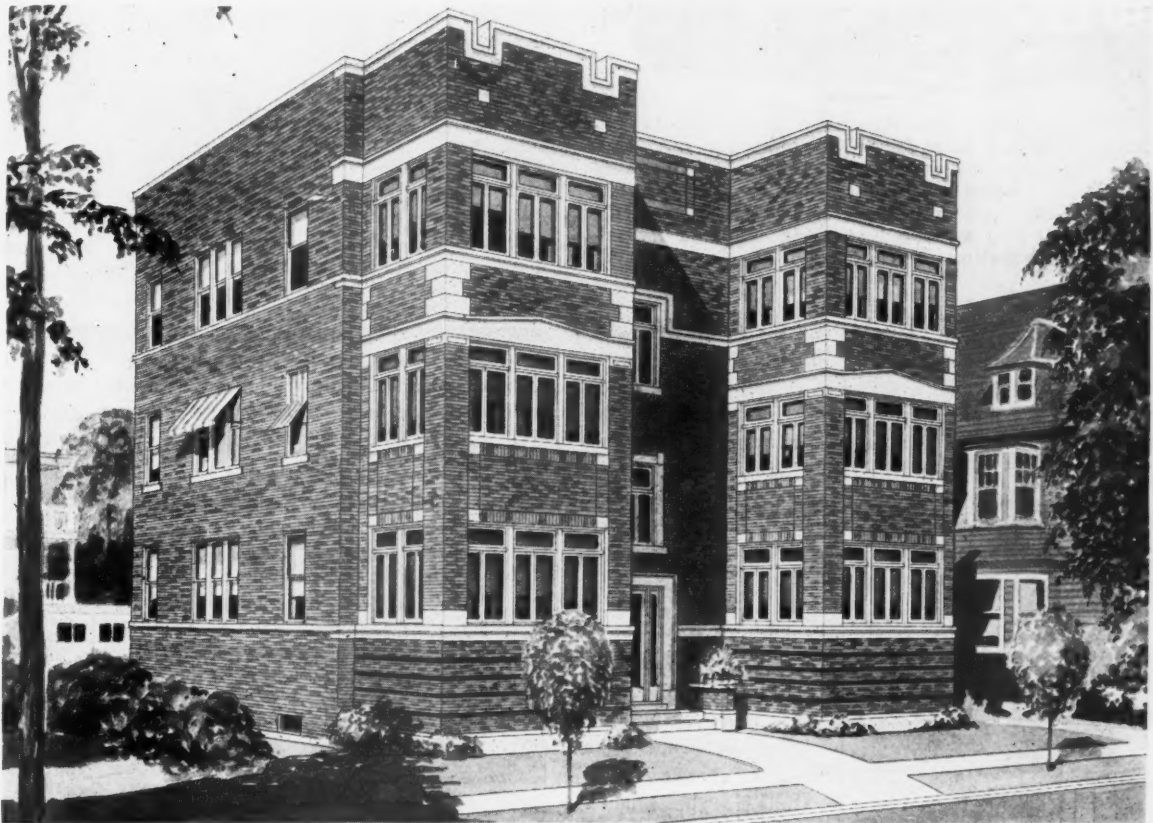


**This Boom Hoist, Operated by a Small Gasoline Engine, Mounted on a Truck, Is Used to Unload Heavy Timbers by Greene & Wood, New Bedford, Mass. The Motor Truck Hauls the Hoist from the Lumber Yard to the Railroad Tracks and Wherever It Is Needed. It will Be Noted that Greene & Wood Stencil the Firm Name on the Timbers.**



# Wolff Plumbing

IN THIS BUILDING  
MAKES IT WORTH MORE



*Complete working plans on another page.*

Specify WOLFF Plumbing for installations of any Size—it has excelled for 64 years in efficiency, continuous service and beauty of design and finish.

## L. Wolff Manufacturing Co.

General Offices—255 No. Hoyne Ave.

Showroom—111 No. Dearborn St.

CHICAGO

body of the motor truck, which was constructed especially for hauling long and heavy timbers.

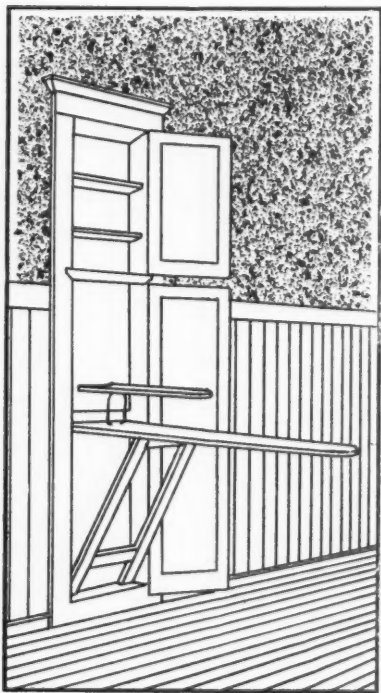
The hoist and derrick being mounted on a truck made this an efficient outfit for handling heavy foundation stone also. It lifts either timbers or stone easily and quickly. No skids are required, neither do the men have to do the back-breaking work of getting the heavy materials onto or off the truck or cars.



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### Folding Ironing Board and Cabinet

Lugging an old-fashioned ironing board, and placing it across the backs of two chairs, does not conform to the modern ideas of how the housekeeper can do her work efficiently. Neither does she heat the iron on the kitchen stove, which makes the kitchen or laundry a veritable inferno. Instead of the old-fashioned ironing board and the irons that are heated on the stove, the builder puts in a folding board, and the housekeeper provides herself or the laundress with an electric iron.



A Folding Ironing Board, Enclosed in a Case that Is Set in the Kitchen Wall Between the Studs. This Saves Much Labor and Inconvenience to the Laundress, While the Board Always Is Out of the Way.

Realizing these things, a manufacturer recently brought out a folding ironing board and cabinet that is of the proper size to set between the studs in the kitchen wall. The large board and the sleeve board both fold to a vertical position and the door is closed. Above are shelves for the iron and other small articles, such as wax and starch, the housekeeper requires when she irons.

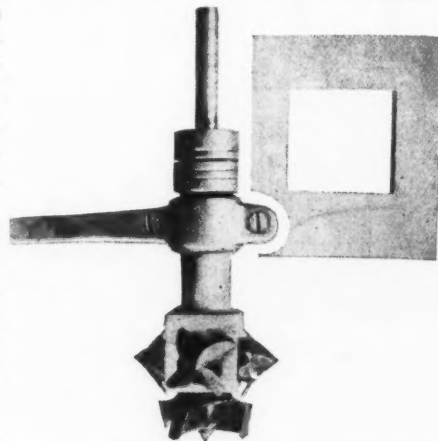
This cabinet, of course, is put in before the lathing and plastering are done. The wooden case fits between the studs and is nailed in place by the carpenter. It comes unfinished so that it may be either varnished or stained to conform to the other

woodwork in the kitchen. Letting down both the large and small boards is the work of but a minute, and both are held firmly in place.



### An Augur That Bores a Square Hole

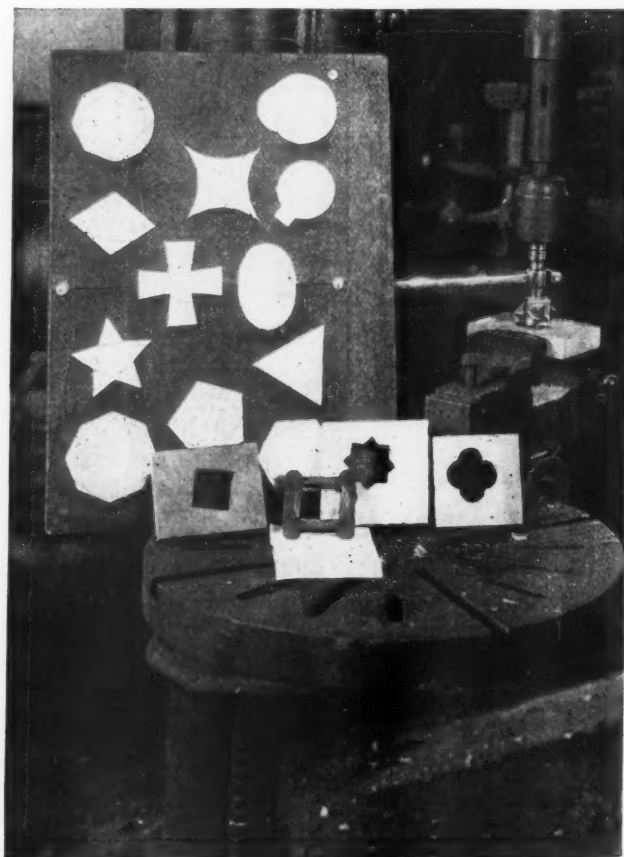
Every now and then some genius comes along and shatters a tradition. Take, for instance, the man with a mechanical turn who has gone and invented an augur that will bore a square hole, thereby breaking up the old-time sport of carpenters, who invariably sent the new apprentice to another shop to "borrow a square hole augur."



But no matter what this inventor has done to the practical jokers, he has invented a machine that will be of inestimable value in every woodworking and carpenter shop. This machine, with some of the holes it will cut are shown in the accompanying illustration. It is a very recent invention and has not yet been placed on the market. But it soon will be, that is certain.

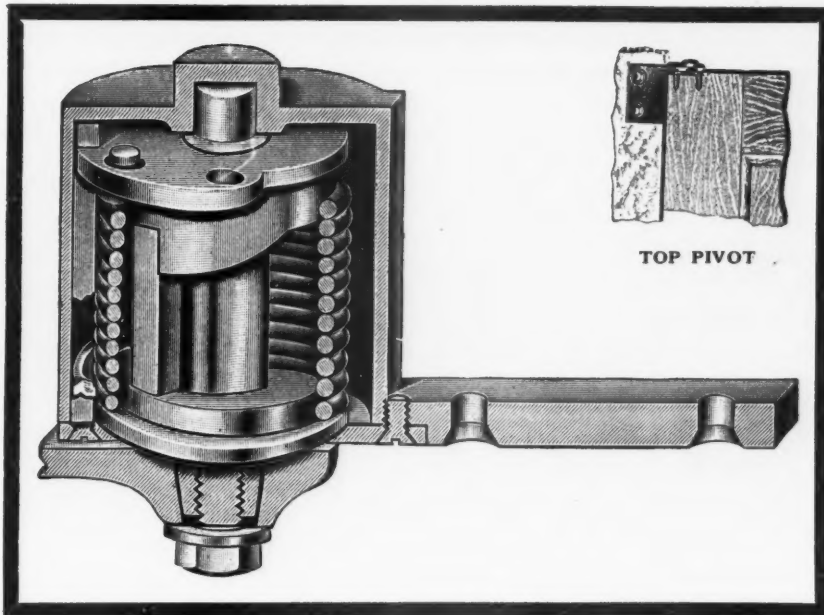
A Close-Up of the Augur Bit. Note the Propeller-Shaped Cutters that "Square" the Round Hole the Ordinary Augur Bit at the Bottom Makes.

The smaller illustration shows the augur that does the

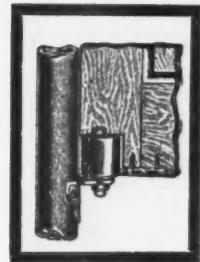


Here Is the Machine that Bores a Square Hole and Some of the Other Shaped Holes that Can Be Made with It.

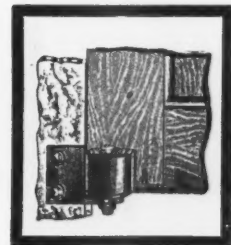
# THE LAWSON "UNIVERSAL" PIVOT SPRING HINGE



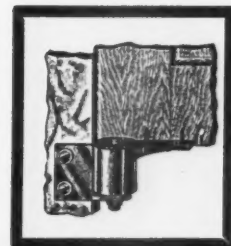
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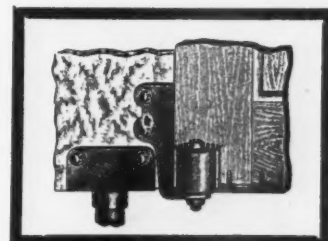
No. 2250



No. 2200



No. 2205



No. 2210

## Lawson "Universal" Pivot Spring Hinges Are Best for Lavatory Doors Because of Their Distinctive Patented Features

The Lawson "Universal" pivot spring hinge can be used for either single or double acting doors, and for right or left hand doors opening in or out. Regular or reverse spring action is immediately obtained without changing spring or any part of the hinge construction or without dismounting the door. The patented mechanical features give the Lawson spring long life and great strength,—yet they move the door slowly.

*Write us for other applications.*

## LAWSON MANUFACTURING CO.

228-230 W. Superior Street

CHICAGO, ILLINOIS

Branch Office: 85 Walker Street, New York, N. Y.



work. The lower part is the round-hole cutter, while on four sides are propellor-shaped cutters that square the hole. It is very simple, isn't it? Why did someone not think of this before. But no one did, and this genius will reap the harvest.

There are many odd-shaped holes that can be cut with this machine. The experienced operator can make all of those shown in the board and the smaller pieces ranged in front of it. The same machine can be used on wood, marble or steel by simply changing the cutters.

The inventor of this machine is the head of a company which manufactures marble, stone, granite and bricklayers' tools. He already has several offers for his patents, so it will not be long before this machine is available.



### Hand Circular Saw Operated by Electric Motor

Light, portable machines, operated by electricity, are making the tasks the woodworker and carpenter perform in the shop less difficult. This sort of equipment, made possible by the prevalence of electric light from which the power to operate these small motors is obtained, is growing in popularity and woodworkers and carpenters are adding them rapidly.

To the list of small portable machines of this character has been added a circular saw, driven by an electric motor, that is operated in much the same way as a hand saw. The motor, which is of one-half horsepower, is mounted in an aluminum base, and operates both a circular crosscut and a rip saw. A groove in the base allows the machine to slide on a track



A Circular Saw, Driven by Electricity and Guided by Hand. Its Operation Is so Simple that a Boy Can Use It. Guides in the Bench May Be Set at an Angle, so that Any Cut Desired Can Be Obtained.

when a guide is necessary. In ripping this gauge slides along as the saw moves. The saws will cut one-inch stock.

As will be seen by the illustration, a boy can operate this saw readily. The electricity is obtained by attaching the wire to an electric light socket. The guard over the saw protects the operator.

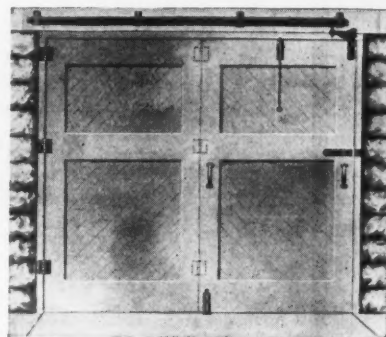
This is a new invention, but will be available for carpenters and woodworkers in a short time. It also is a valuable machine for manual training schools. In both uses it will be a valuable addition to the present equipment.



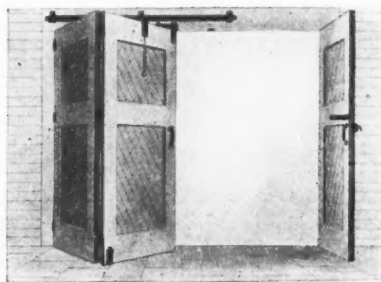
### New Type of Garage and Barn Door Hangers

Hanging garage and barn doors so that they will operate easily and at the same time take up little space, especially in garages, is one of the things the builder seeks to do in constructing these buildings. Manufacturers of door hangers have devised many types of doors, so that all conditions can be met with in a sensible way.

Illustrated herewith are two garage door sets hung in a new way. The track used is straight and the hanger will permit the doors to fold back parallel with the building. The doors do not slide in the threshold, but swing clear of the sill before the sliding begins.



Two Doors that Fold as Hanger Slides on Track.



Three-Door Garage Set.

from binding on the jamb of the door. It can be used on either right or left hand doors.

The illustrations show this hanger on both two and three door installations. In the two-door the track is the width of the doors, which are hinged together and at the jamb. They fold, and when open are flush against the wall, leaving the entire door opening available. A service door that is hinged to the jamb is added in the three-door installation.

This equipment can be used on old as well as new garages, and is satisfactory for barns.



### Three Sets of Efficient Garage Doors

The popularity of swinging, sliding doors for garages is more apparent every day, especially in cities, as where space is at a premium. And with this demand there is being developed



You can't expect Beaver Board results unless this trademark is on the back of the board you buy.

"A. C. Lansdell, local manager of the Lentz Furniture Company, Kennett, Mo., is mighty well pleased with this beautiful interior and along with us is a booster for Beaver Board."

W. W. TAYLOR & SONS

(J. W. Taylor)



This is J. W. Taylor, of W. W. Taylor & Sons, progressive builders, located at Kennett, Missouri.

Beautiful interiors like this are in evidence all over the country, proving that *Beaver Board results are easy to get*. With this permanent wall and ceiling material, building or remodeling can be done at a great saving of time. And new construction, increasing in volume every day, quickly turns this time-saving into extra profits for the builder.

You can bank on Beaver Board co-operation at every point. Out in Kennett, Mo., for example, the Lentz Furniture Company wanted a new display room quickly, but permanently. The contractors, W. W.

Taylor & Sons, knew that the E. C. Robinson Lumber Company of Kennett always carries large stocks of Beaver Board. No time was lost in getting started. This is typical Beaver Board progress everywhere resulting in satisfied users, pleased contractors and builders, and enthusiastic dealers.

There's a Beaver Board dealer near you. Ask us for details of the Beaver Board plan for increasing sales and profits.

**THE BEAVER BOARD COMPANIES**  
62 Beaver Road Buffalo, N. Y.

Branches in Boston, New York, Baltimore, Cleveland, Detroit, Chicago, Minneapolis, Kansas City, San Francisco, Ottawa, Can., and London, Eng.

Manufacturers also of *Beaver Greenboard* and *Beaver Blackboard*.  
Distributors in principal cities, dealers everywhere.

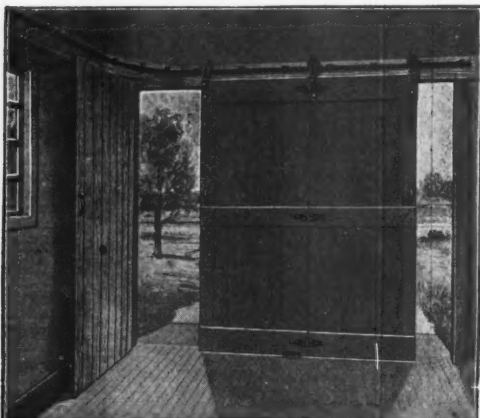
# BEAVER BOARD

## FOR BETTER WALLS & CEILINGS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

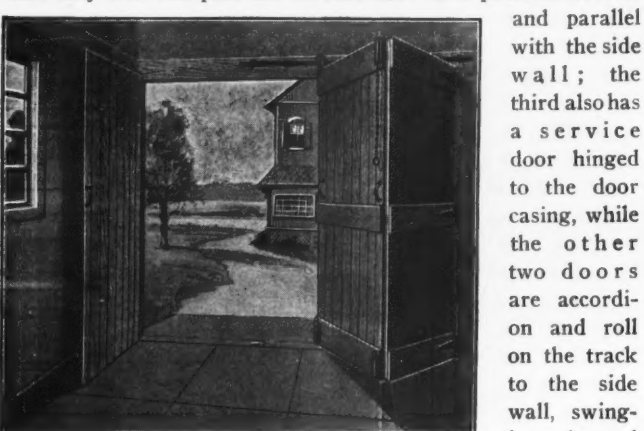
new and efficient types of hardware for this kind of garage doors.

Illustrated herewith are three garage door sets that have recently been designed by one of the foremost manufacturers



The Service Door Is Hinged from the Door Casing, and the Other Two Doors Roll Past It When It Is Open and Are Parallel with the Wall.

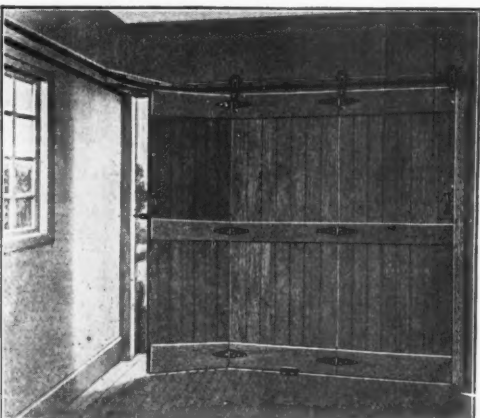
of garage door hardware. All are hung on tracks and swing out of the doorway.



The Service Door Is Hinged from the Casing, While the Accordion Doors Roll and Swing Against the Opposite Wall.

operation; the second has a service door hinged to the door casing and the two remaining doors are so arranged that they will roll past the service door to a position over it and parallel with the side wall; the third also has a service door hinged to the door casing, while the other two doors are accordion and roll on the track to the side wall, swinging inward at the same time. When the latter are open they are held in position by a floor bolt.

The most important feature of garage doors is the hardware, as this provides for the operation of the doors and making them tight and weather proof. The ease with which



Three Rolling Doors that Are Carried Around to the Side Wall in One Operation.

the doors can be operated depends on the way they are hinged together and hung. Thus the selection of the hardware by the builder is an important matter.

In building garages, contractors who are familiar

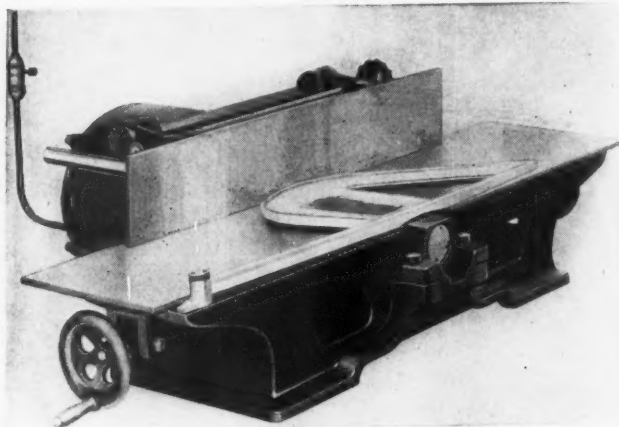
with the various types of garage door hangers will find this knowledge a great advantage, as it enables them to give the customers the right kind of a door to make the building satisfactory.

the doors can be operated depends on the way they are hinged together and hung. Thus the selection of the hardware by the builder is an important matter.

In building garages, contractors who are familiar

## A New Six-Inch Bench Planer

The success of the small electrically operated bench machines for carpenters and other wood workers has been such that manufacturers of this type of equipment are enlarging their output, both as to quantity and sizes. One of the latest of these machines is a 6-inch bench planer, similar to the



A New Electrically Drive Six-Inch Portable Bench Planer. The Direct Drive from the Motor Makes this a Powerful Little Wood-working Machine.

4-inch planer that has been found so useful and efficient in the shop.

This latest machine is operated by a small motor mounted in the planer frame and develops three times the power possible with the smaller machine. An interesting feature is a new fence that has been developed in connection with this machine. This fence is mounted on the motor and slides backward or forward on rods, rendering it quickly and accurately adjustable. The fence also is designed so that only a fraction of an inch is lost on the table when the fence is set for beveling.

The great advantage of these small machines is that they save the time of the men. This machine is capable of doing a great proportion of the planing work right at the bench, thus saving many steps and much of the men's time.



## In Luck

"What are you going to the doctor about?"

"Loss of appetite."

"Great Scott! Can't you play up a bit of luck when it comes to you?"—*Louisville Courier-Journal*.



## It's the Truth

"Sam is a confirmed liar, isn't he?"

"Not exactly, but nobody has ever confirmed anything he's said."—*Cartoons*.



## False Accusation

"That fellow is a bolshevist in disguise."

"Nonsense! A bolshevist never disguises. He advertises."—*Washington Evening Star*.



## Overheard

"I don't see why we should feed the Germans."

"If we do so at the prices we have to pay ourselves, con-found 'em, they deserve it."—*Boston Evening Transcript*.



## Forest Notes

Nearly half a million people use the Pike National Forest, in Colorado, each year for recreation. |



# New Method Overcoating With Stucco on Metal Lath

MACHINE TO PROJECT MATERIALS CUTS WORKMAN'S TIME AND THE LABOR COST. HOW IT IS USED.

**O**VERCOATING old houses and other buildings with stucco applied to wood, metal or expanded metal lath, or direct to the walls in the case of brick construction, is one of the most frequent remodeling jobs the builder is called on to take. Thousands of houses have been transformed from ill-appearing structures into modern, attractive homes by the use of these materials and for that reason this has become the popular method of treating such buildings.

Until recently the stucco finish has been applied by the old method of floating it on with a trowel. Now, however, a little machine that projects the stucco and aggregates has been devised. By its use workmen save time, and consequently labor and money. At the same time excellent results are obtained.

Accompanying this article are illustrations showing a Cincinnati home before and after remodeling with stucco; the garage that was added to the house, and the method



The Hodson Home After It Had Been Overcoated with Stucco. What an Improvement in Appearance the Stucco Made Is Shown by Comparing this and the Other Illustration on this Page.



The Home of J. D. Hodson, Cincinnati, Before It Was Overcoated with Stucco Over Metal Lath. The Siding Was Not Removed, the Lath Being Nailed to It and the Stucco Applied by Means of a Special Machine.

of applying the stucco with a machine are also shown.

## How the House Was Overcoated

The home is owned by J. D. Hodson. While the building was not old, neither had it been allowed to deteriorate, Mr. Hodson decided to transform it into a stucco house. The contractor did not remove the lap siding, but covered it with saturated felt paper and then nailed on the metal lath. After a coating of cement stucco, five-eighths inch thick, had been applied with the machine, the coat was floated roughly to secure the best effect for the finish coat of white cement and white sand mixed with crushed silica. The gables were pebble dashed with red Wisconsin granite aggregates.

The garage is of standard frame construction. The building paper was nailed over the sheathing and metal lath nailed on. Then the stucco was applied with the machine. It took the workmen one

and one and one-half hours to finish the job of stuccoing with the machine.

#### Electrically Operated Stucco Machine

The stucco machine weighs 30 pounds and is operated by electric power. It is operated by one man, while a second mixes the cement and aggregates and loads the machine. A plasterer roughly floats the base coat after it has been applied, while a carpenter builds the scaffold.

The machine applies the stucco with considerable force, which completely imbeds the material in the metal lath. The illustration shows the workmen putting on the finish coat over the roughly floated base. Different feeding hoppers and projecting spouts are used for the cement and the aggregates.

In the illustration the workmen are shown applying stucco directly to the walls of a brick house. This building of common brick, with face brick corners, was erected twenty-seven years before it was overcoated. The surface was plastered and was covered with vines when the latter were removed, the plastered surface was left with numerous black marks. The whole was covered with a thin coat of finish stucco by using the machine.

#### Great Saving in Labor and Money

The great saving made by overcoating old houses



The Stucco Garage that Was Built in Connection with the Hodson Home. Metal Lath Was Nailed to the Sheathing and the Stucco Applied.

and the fine appearance of the building after the work is done has brought this kind of remodeling into great favor during the last few years. Many buildings, substantially built, have become unattractive because of the action of the weather on the outside walls and because of their design. The builder by adding a porch, or building on to the house and then applying stucco, gives the owner what is to all appearances a new and modern home.

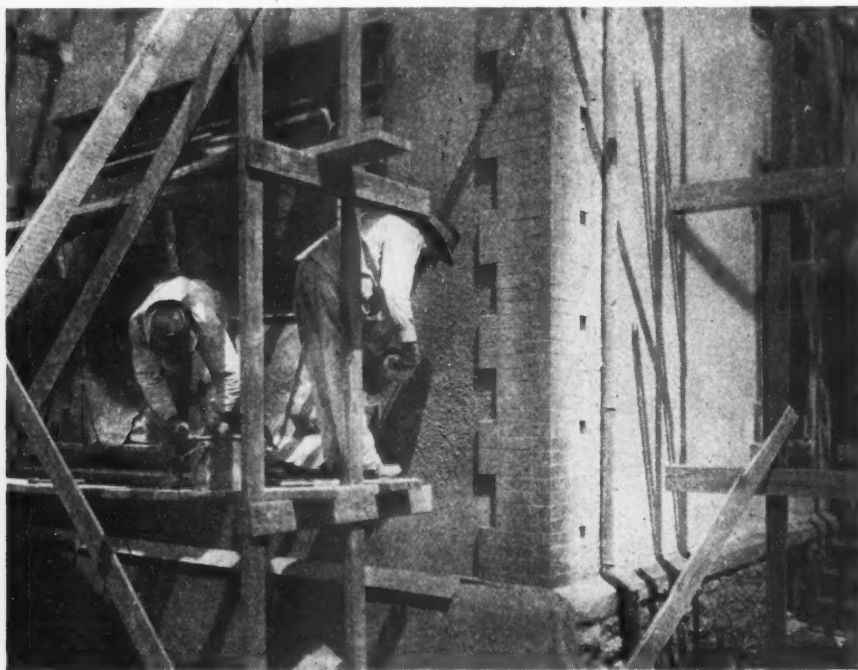
In doing this work, like in every other building operation, speed is essential as it cuts the cost to the owner. When machinery will accomplish this result and at the same time do the work well, it is worth using.



#### Use Your Head

A woodpecker pecks  
Out a great many pecks  
Of Sawdust  
When building a hut;  
He works like a nigger  
To make the hole bigger—  
He's sore if  
His cutter won't cut.  
He don't bother with plans  
Of cheap artisans.  
But there's one thing  
Can rightly be said,  
The whole excavation  
Has this explanation—  
He builds it  
By  
Using  
HIS  
Head.

—The Protectograph.



Showing How the Stucco Is Projected by an Electrically Driven Stucco Machine. The Stucco Was Applied to the Garage Walls in One and One-half Hours by Using this Machine.



# Self-Spacing Shingles



## Make Better Roofs

A HOUSE is in good condition only as long as the roof is good.

VULCANITE SELF-SPACING ASPHALT SHINGLES, owing to their closed and solid top, make an absolutely weathertight, three thickness roof which is quickly and easily laid, saving time, labor, and material—this all means money.

### The Shoulder of Protection

VULCANITE SHINGLES add grace and distinction to any home. Their rich tone—in both red and green—offer unlimited opportunity for artistic treatment.

Quality is built into every shingle we manufacture. Our trademark is our guarantee.

#### DEALERS:

Write us for our "Dealer Helps."  
They will show you how to increase your business.

#### CONTRACTORS:

Write us and let us show you why you should specify and buy "Vulcanite." Our booklets are of extreme interest and value to you.

Approved by the National Board of Underwriters

## Patent Vulcanite Roofing Co.

FAMOUS for QUALITY

Chicago   Kansas City   San Francisco   New York  
Cincinnati   Birmingham   Minneapolis   Albany  
Anderson, Ind.   Franklin, O.   Buffalo

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



## Possibilities of the Steel Square

EXEMPLIFYING THE RELATIONSHIP BETWEEN CIRCULAR AND STANDARD MEASURE IN CONNECTION WITH THE STEEL SQUARE FOR OBTAINING MITERS

By A. W. Woods

**W**E have been asked to exemplify circular measure and what relation it has to the steel square in roof framing in general.

This is the theory that we have been working on in practically all of our writing in the past twenty years; and in the course of our writing for this

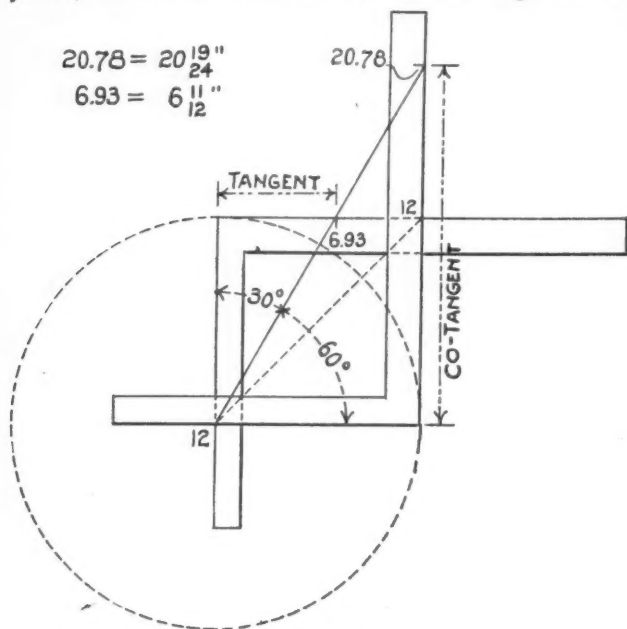


Fig. 1. Illustrating the Tangents for 30 and 60 Degrees.

Magazine have given the fundamental rule from which the calculations are based. But as new readers are constantly being added to the AMERICAN BUILDER family, we feel justified in giving it again, tho in somewhat different form and, we believe, in a more simplified manner.

Without waste of words, we will assume that all understand that in circular measure the circle is divided into 360 parts, called degrees, and these parts again divided into 60 parts, called minutes, and these parts again divided into 60 parts, called seconds. However, for our purpose, we will drop the minutes and seconds and consider only the degree divisions of the circle. By referring to the illustration in Fig. 3, it will be seen that the circle is divided into 8 equal

parts, and one of these parts is divided into 45 equal parts. These divisions represent degrees, and by continuing the division lines to the tangent line (blade), will give all that is needed to catch any angle with the aid of the steel square. This may seem a little strange to the casual observer, but it is a fact, as will be proven when applied to standard measure, as follows:

Suppose the radius of the circle to be 12 inches and we apply the square with the figure 12 on the tongue at the center of the circle. Then the figures shown at the right of the blade represent the length of the tangent for the corresponding division on the tangent line.

It will be seen that the tangent for the 45 degree line is 12 inches and, as we said before, there is no need of going beyond this point to catch any angle obtainable with the aid of the square, because the figures on the tangent line above this point (not given) would represent the co-tangents and are therefore simply a repetition of what may be obtained below 12 on the blade.

Then again, the co-tangents increase in length very rapidly and pass beyond the length of the blade at a fraction above 63 degrees, and if continued on up to 89 degrees, the co-tangent would be  $57' 3\frac{1}{2}"$  long. In other words, it would require a square with a blade  $57' 3\frac{1}{2}"$  long to represent the co-tangent for 89 degrees.

The question then naturally arises, how can the angle for 89 degrees be obtainable below 12 on the blade? Simply by taking its complement, which is 1 ( $90 - 89 = 1$ ) and the tangent for this is shown to be .21". Then 12" on the tongue and .21" on the blade will give the angle for 1 degree and also for 89 degrees; the blade giving it for the former and the tongue for the latter. In other words, these proportions give the same result for 89 degrees as the square would be with the  $57' 3\frac{1}{2}"$  blade. The only difference is, in one the tangents and co-tangents are reckoned as being on one side of the square, while in the other the tangents are reckoned on the blade, while 12 on the tongue is made to represent the co- or complement tangent.

Thus, for 88 degrees it is reckoned in the same way

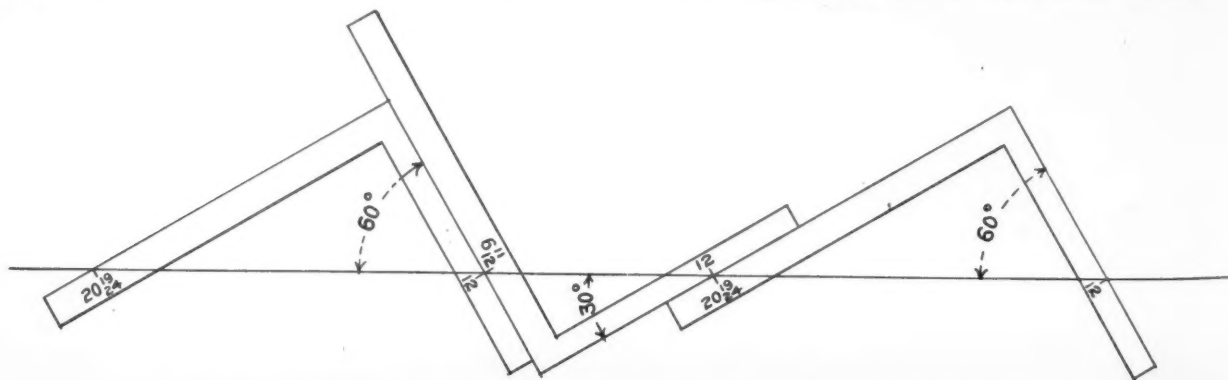


Fig. 2. Thirty and Sixty Degrees Showing Same Angles as Proven by Straight Edge.

# PORTAL WALL BEDS

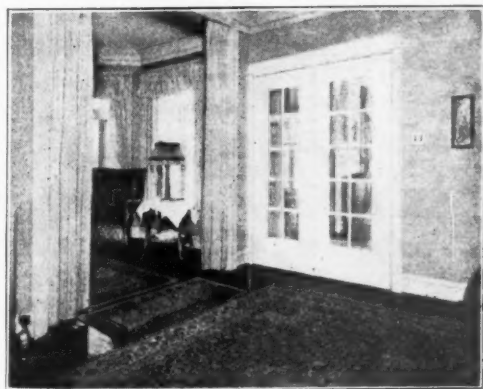
**W**ILL SOON BE STANDARD EQUIPMENT with all wide awake builders. The idea is not new, merely new to people who do not keep posted in up-to-the-minute space saving, money making equipment.

Portal Wall Beds concealed in Sun Parlor, Porch, Living Room or Dining Room provide delightful sleeping accommodations for members of family or guests. And for those who wish small homes or small apartments the Portal Wall Bed is the real means of room economy without any sacrifice of comfort or space limitations.

It behooves every builder to understand Portal Wall Beds thoroughly so that he can make suggestions appreciated by prospective home owners, and profitable to himself.

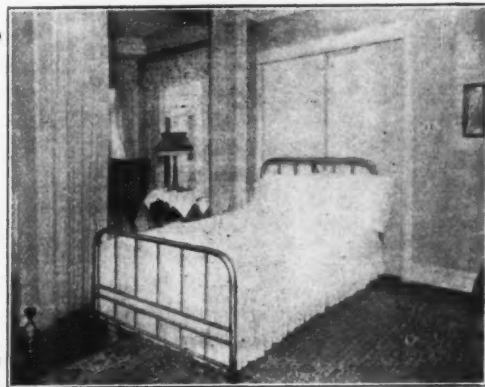
## **Make Preparations in Your Plans for Portal Wall Beds**

Write for information. It will be promptly forthcoming.



On the left  
Interior of Living  
Room. No sug-  
gestion of bed.

On the right  
Same room—a  
sleeping room  
now.



### **W. L. Van Dame Co., Chicago**

BURR-AVEY CO., Cleveland.....Agents for Ohio  
G. E. SHERMAN, Detroit.....Agent for Michigan  
H. E. HOLBROOK CO., Boston,  
Agents for New England States

### **Marshall & Stearns Co., San Francisco**

STIX, BAER & FULLER CO.....St. Louis  
KITCHEN & QUICK.....Tulsa, Oklahoma  
D. B. PORTER.....Omaha, Nebraska  
PHILIP VOORHEES & SON.....Logansport, Indiana

as for 2 degrees, 45 degrees being at the half way place between the reckoning points is naturally equal on the square as 12 and 12; consequently either side of the square gives the same results. But if the angle for 46 degrees is desired, then we must look to its complement, 44, which is shown in the table to be 12 and 11.58, but the angle sought will be on the tongue side of the square instead of the blade, as in the case of the latter.

To illustrate this point further, we will take 30 and 60 degrees. These represent the angles to take on the square for the hexagon and triangle respectively, and in Fig. 1, both the tangent and co-tangent are shown and, as it happens in this case, that the degree and its complement both represent angles that give the miter for regular polygons, either square will give the angle

for the miter for either the hexagon or triangle by simply reversing the cuts on the square.

In Fig. 2 is shown a proof of this by applying the squares to a straight line, and it will be seen that the blade and tongue coincide with each other.

Now, we are aware that some may wonder what all this has to do with roof framing in general and what good is it anyway. To such, will say that it has all to do with it, and that when the principle is once mastered, the whole subject of obtaining angles with the aid of the steel square is mastered. But we shall not go further at this time.

Next month we will take up where we leave off now. So far we have only laid the foundation upon which to build. We leave it to the student reader to think about it until we come again.

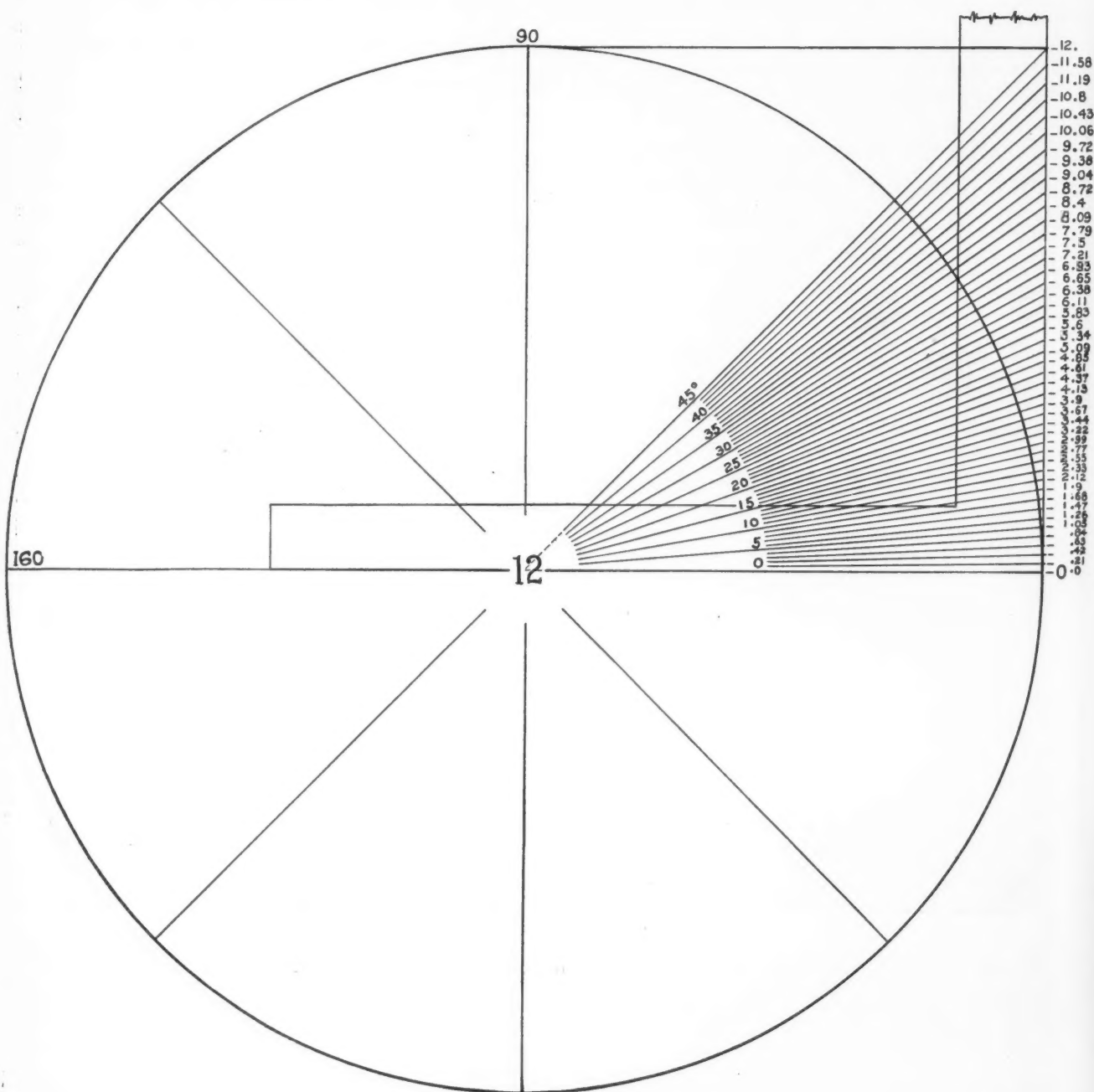
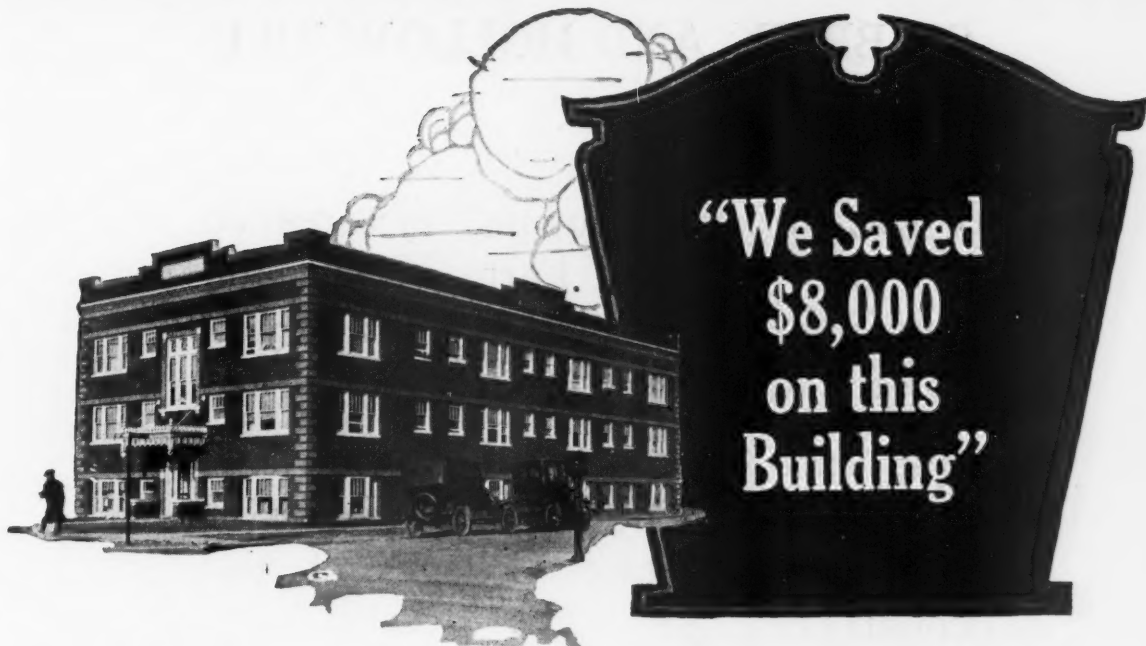


Fig. 3. Table of Tangents in Connection with Steel Square.



# MURPHY IN-A-DOR BEDS



## \$8,000 Saved by Installing Murphys

Wm. H. Welter & Company, contractors and builders, in Gary, Indiana, saved \$8,000 on the construction cost. Not only that, but they are getting \$35 and \$40 per apartment, although they had planned to charge \$30 for these apartments, including an extra room.

But they eliminated the bedrooms. Made two room Murphyized apartments—thereby reducing the housework for the occupants—and get more rent for apartments that cost less to build!

"Last Spring," writes Wm. H. Welter, "I received some sketches from your service department. I was, at that time, making preparations to build. I was so impressed by your suggestions that I discarded the plans I had already made

and drew up new plans according to your two-room-apartment sketch.

"As a result I saved about \$8,000 in the construction of the building and increased my income by about 20%. Apartments, such as I had originally planned, rent for \$30. By using Murphy Beds I am getting \$35 and \$40 instead.

"The saving was made by being able to eliminate one room from each apartment. The increase in rent is due to the more tasty arrangement made possible by the Murphy Beds and the reduction in the housework and furnishings.

"I am sure that in the future I will use nothing but your In-A-Dor Beds in apartment buildings."

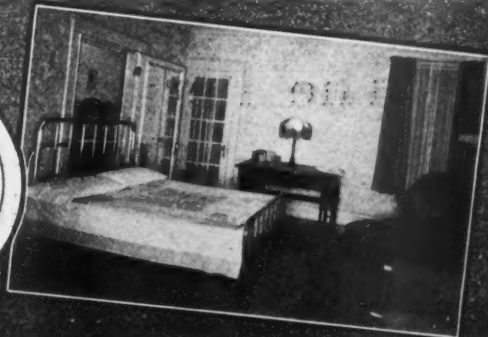
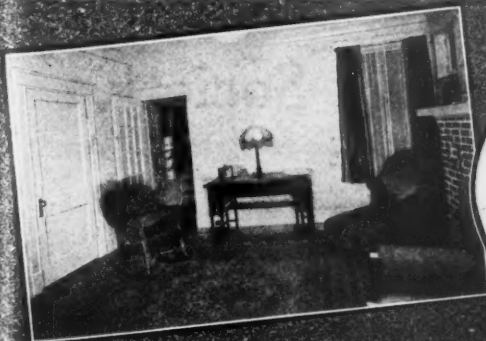
*Can You Afford to Build Without  
Installing Murphy In-A-Dor Beds?*

## MURPHY DOOR BED COMPANY

101 Park Avenue  
New York  
659 Leader News Bldg.  
Cleveland, O.

22 West Monroe Street, Chicago  
Chemical Building, St. Louis

305 City Club Bldg.  
Kansas City, Mo.  
106 No. Edgefield Ave.  
Dallas, Tex.



## Two Exceptionally Well-Planned **MODERN FARM HOUSES** OF BRICK AND HOLLOW TILE

**W**E are not showing pictures of these Modern Farm Homes for the simple reason that we want you to send for them.

They are designed by the Agricultural Experiment Division of one of the leading State Colleges of the country.

These well-planned designs are the result of many months work among farmers themselves, to learn exactly the farmer's need. They are highly practical and economical farm house plans.

If you build farm houses they will be of real value to you, and we want to send them without cost or obligation.

**The Permanent Buildings Society**  
CHAMBER OF COMMERCE  
Chicago, Illinois

## Send for Complete Working Drawings Full Size Actual Blue Prints

We want to send you, without cost or obligation, complete working drawings of these Farm Houses — Actual Blue Prints 18x24 inches, 5 sheets to the set. These plans are complete in every sense, you can build from them without any trouble whatever—and in a permanent, fire-safe way.

---

### MAIL THIS COUPON TO-DAY

---

**The Permanent Buildings Society**  
Chamber of Commerce, Chicago, Ill.

\_\_\_\_\_  
Your town, state and date

Gentlemen: I am very much interested in the Modern Farm Houses described in the July issue of the American Builder and would like to receive free floor plans of same together with further information about their construction.

Use this space to ask for any further information you may desire.

\_\_\_\_\_  
\_\_\_\_\_  
Tell us what other buildings you are planning \_\_\_\_\_

\_\_\_\_\_  
Who is your lumber or building material dealer \_\_\_\_\_

Do you want to know where to get the necessary permanent building materials for these and similar buildings? \_\_\_\_\_

\_\_\_\_\_  
(Your Name)

\_\_\_\_\_  
(Your Business)

\_\_\_\_\_  
(Your Town)

\_\_\_\_\_  
(Your State)



## Modern Farm Home Has Water and Light

CONTRACTORS MAKE NICE PROFIT BY INSTALLING THESE CONVENIENCES IN THE HOUSES AND BARNs THEY BUILD

**T**HE farmer who builds for himself and family such an attractive home as is shown at the bottom of this page usually has it equipped with running water and electric lights, and in planning the house with the contractor makes arrangements to have these two plants, or at least one of them, installed during construction.

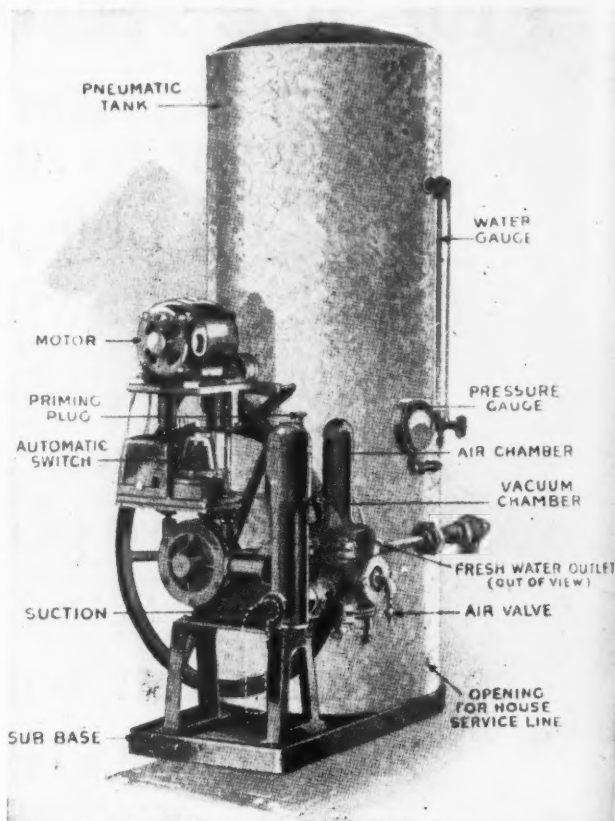
The farm home and barn shown here are those of E. S. Wells, near Salem, Ohio. Mr. Wells has electric lights in his house and barn, and consequently has the power to run a small electric motor to operate the water system. The plant used is a pneumatic system, compressed air forcing the water from a tank, that contains both the air and water, to the different faucets.

### Electric Motor Operates Water System

The plant shown in the accompanying illustration supplies the Wells home with water. Wherever it is possible to secure electric power, a water system is easily operated. It is automatic in operation and requires practically no attention. There is an automatic electric switch that is set to release at 20 to 40 pounds minimum and maximum pressures. These pressures may, however, be varied to suit conditions. When the pressure in the tank becomes less than 20 pounds, the circuit closes and the motor starts. When the pressure becomes 40 pounds the motor automatically stops.

Contractors who build homes where there is no city water or electric current supply available are doing a large business in supplying these systems. Their sale

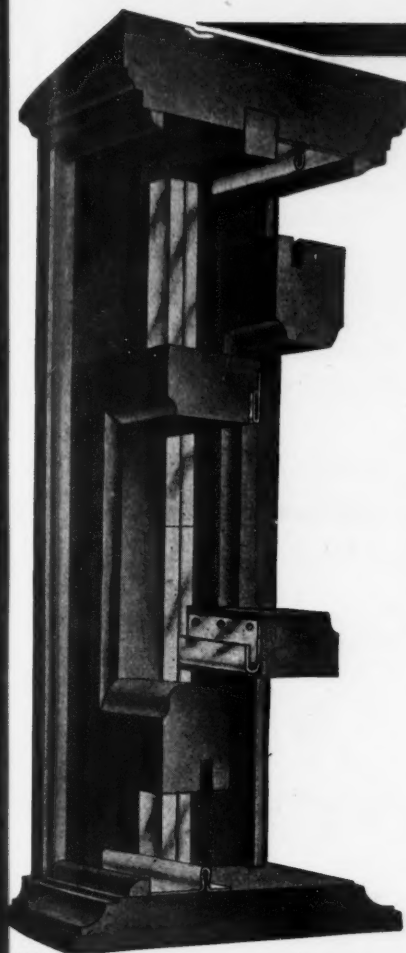
and installation makes a nice additional profit on the country building job.



The Electrically Driven Compressed Air Water Plant that Furnishes Running Water in the Home of E. S. Wells.



Farm Home of E. S. Wells, Near Salem, Ohio. Mr. Wells Has His Home Equipped with Electric Light and Running Water. The Electric Light System Furnishes the Power to Run the Small Water Plant Shown Above.



# SAGER

## METAL WEATHER STRIPS

are going stronger than ever. Contractors all over the country are realizing a greater profit than ever before from their installation.

We have purchased the assets, patents, etc., of the Shogren Weather Strip Company. We have added their modern efficient equipment to our modern factory and large organization. Equipped as we are we are offering our customers the very best material and service to be had in the weatherstrip line.

**We Ship All Orders the Same Day  
We Receive Them**

Sager Metal Weather Strips are the best that your money can buy.

Carpenters and builders know a great deal about weather strips and you perhaps haven't been perfectly satisfied with the ones you know most about.

**SAGER METAL WEATHER STRIPS CUT HEATING COSTS 20%**

## The Perfectly Constructed Weather Strip

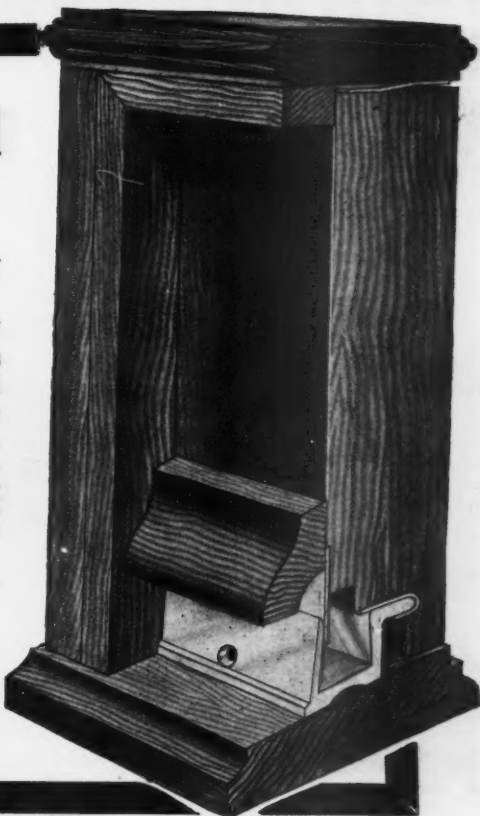
This cut shows a section of the casement window opening in. It is the most popular type of window.

Our brass trough bottom equipment is the result of years of study on the troublesome problem of water leakage on this style of window. This equipment is absolutely waterproof and fool proof. A metal tongue is attached to the bottom of the sash in such manner as to contact with the outer splash fence. This outer fortification will hold back the water in the hardest storm. Should a few drops of water leak over the splash fence, they will drop into the trough and run out through the weep holes. The water cannot reach the bottom of the sash from the tongue on account of the drain behind it. EFFICIENT—DURABLE—PERFECT.

We have the liveliest proposition in the country for contractors and builders that are reliable.

*Write Us Today for Complete Information*

**SAGER LOCK COMPANY**  
North Chicago, Illinois

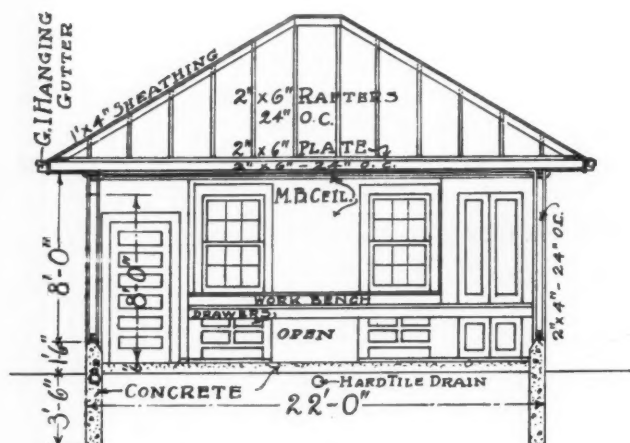


WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# A Fine Two-Car Garage of Frame Construction

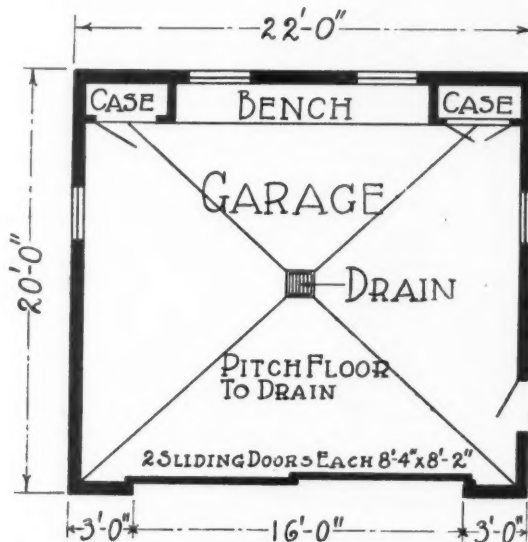
WHILE perhaps a majority of those who build homes this year may not have automobiles, it is the ambition of a large percentage of them to own one, and they will want a garage to round out the home building group. Building a garage at the same time the home is built is economy, in that the men and equipment are on the ground, and besides, the owner will be certain that the home for his automobile will be in harmony with the home for himself and his family.

Here are shown a perspective, floor plan and cross-section of a garage designed for two automobiles. It is of standard frame construction, 20 by 22 feet, set on a concrete foundation. The floor, of course, is of concrete, with a drain in the center. Two cases and a work bench are provided in the rear of the garage. The doors are parallel, hung on a track. The cross-section shows the method of framing the walls and roof, and the work bench and cases.



CROSS SECTION

Cross-Section Showing Work Bench and Drawers in Rear of Two-Car Garage and Construction Details.



Floor Plan of Two-Car Garage.



Fine Type of Two-Car Garage of Standard Frame Construction, Set on a Concrete Foundation. Parallel Doors Allow an Opening Practically the Full Width of the Building.



**CEMENT TILE & BLOCK WORKS**  
C. J. & M. DAVIS, Proprietors  
INTERLOCKING CEMENT STAVE SILOS

Timewell, Ill.

6-9-19

W. E. Dunn Mfg. Co.,  
Holland, Mich.

Gentlemen: Yours of the 7th at hand. We are glad to have you express your willingness to co-operate with us, and may state that we desire to co-operate on the market and help you that we can make the best tile on the market and help all to maintain the best machine; then we will both have all the business we can handle.

Since we last wrote you we have sold another 100,000 cement tile, and will have to enlarge our capacity to handle the trade. Kindly quote your best terms and prices on another Automatic machine, and how soon you can make delivery to us.

This morning we have prospects for over 600,000 tile for this season delivery, with more in sight and more coming every day. We attribute this boom in our business to our motto of "No Dissatisfied Customers".

Yours truly

*C. J. & M. Davis*

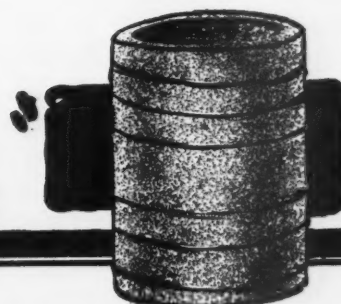
We have sold over 100,000 tile in the last two weeks and never left the town.

Yours for more business

*C. J. & M. Davis*

June 5th

**1,000,000**  
**Cement**  
**TILE**  
-and a Profit of  
**\$20,000**  
**Per Year**



## You, Too, Can Make Money

**T**HERE is money—big money—making concrete drain tile; and it's a business that **you** Mr. Building Contractor, can succeed in because you can utilize your building, labor, goodwill, experience and much of your present equipment.

C. J. & M. Davis of Timewell, Ill., state they have "prospects for 600,000, and more coming." This is for the **season**, and in addition to that already sold. During the **year** they will no doubt sell a **million** tile. Their net **profit**—not simply **sales**—will probably reach \$20,000.00.

Can you do as good? Why not!

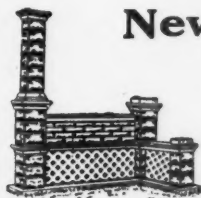
You have enterprise, initiative, and the field is wide open. Farmers are demanding more concrete tile than present plants can begin to supply. Manufacturing is easy with Dunn equipment. There is no depreciation to the product. And no other legitimate business paying similar profits can be started on so little capital.

We are prepared to completely equip your plant to make the highest quality and most saleable tile at the lowest manufacturing costs, and to offer you the most practical co-operation possible.

No room for details here, but your request will bring literature in which the concrete business is interestingly described from A to Z. Wait for it.

### New Catalog Ready on Concrete Machinery

Block Machines, Porch Molds, Sill and Step Molds, Concrete Mixers, Sewer Pipe Molds, Post Molds, and a full line of concrete machinery is described and illustrated in the new Dunn catalog. Write for a copy.



**W. E. DUNN MFG. CO., 415 24th Street, HOLLAND, MICH.**

# MOTOR TRUCKS IN THE BUILDING INDUSTRY



## Trucks Start and Finish the Building Job

FIRST THEY HAUL THE EQUIPMENT TO THE JOB; THEN THE MATERIALS, AND FINALLY REMOVE THE TOOLS AND REFUSE, AND ALL THE WORK IS DONE QUICKLY AND ECONOMICALLY

**W**HAT better could demonstrate the value of the motor truck to the building contractor than the illustration shown at the bottom of page 118. Here is the truck loaded with equipment ready to start for the site of a new building. The mixer, the mortar box, the water barrel and the wheelbarrow, all are on board, and within a short time will be in place ready to begin operations.

The equipment deposited, the truck then begins carrying the materials that go into the building. And when the building is completed, the truck will perform the final service of transporting the equipment to the next job or to the contractor's store room.

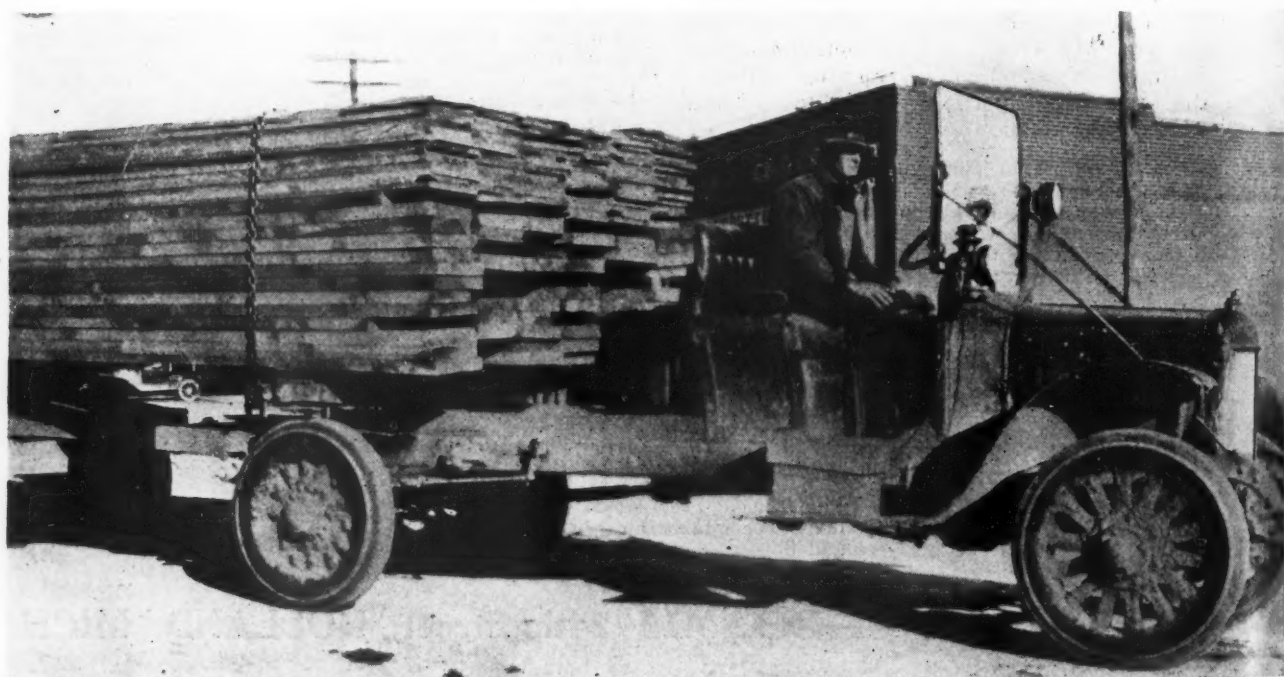
Thus, from the very beginning of construction work

to its completion, the motor truck is the main stay of the contractor.

### Trucks Save Money for Brooks & Co.

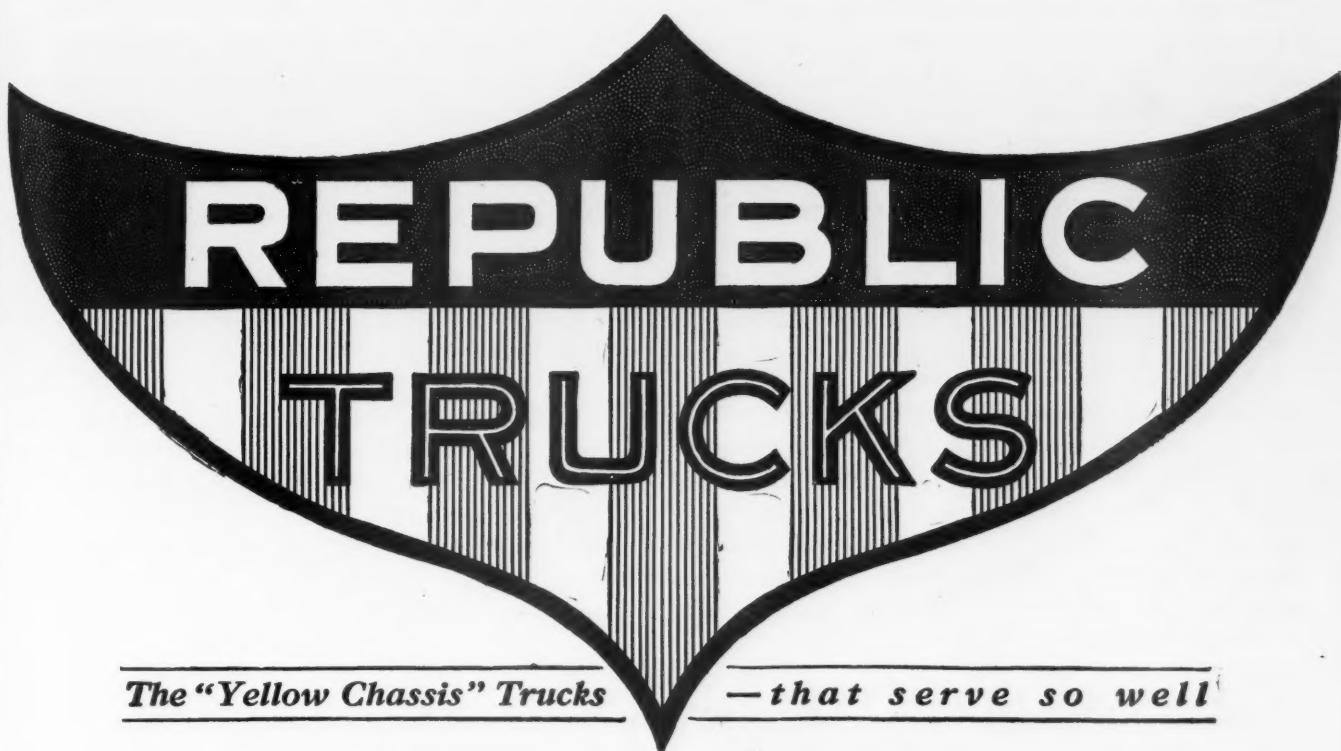
The illustration shows the truck and equipment owned and used by E. Brooks & Co., New York City. This concern does a large contracting business and keeps this and other trucks like it in continuous operation. The trucks save money for this firm, because they supply the materials the men need as fast as they need them, and there is no loss from idle labor.

Hauling building materials by truck, or by truck and trailer, has been found to be the most economical method. The truck has speed and carrying capacity; it will perform five times as much work as can be



Thru Mud and Over Heavy Roads this "Republic" Truck and Semi-Trailer Transport Big Loads of Lumber to the Building Job. Note the Mud on the Wheels and Chassis. That Gives an Idea of What this Truck Has Hauled the Large Quantity of Lumber Thru.

# The Sign of America's greatest motor truck service



A truck is no more efficient or practical than the service that goes with it.

There are over 1400 Republic service stations in this country alone. Republic service is maintained in thirty foreign countries. In practically every city, town or community—in yours—you will find a Republic service station.

And a Republic service station is not merely a "sign" pasted on a window. It is a fully equipped organization. It is amply stocked with parts. It is always at your service and in your service.

This is something you must bear in mind when selecting your truck. The famous Republic shield is your protection. Think this over before you buy.

REPUBLIC MOTOR TRUCK CO., Inc., Alma, Michigan



done with teams and wagons of the same capacity because of its speed; its power carries it thru all sorts of road conditions and the soft earth that surrounds most building jobs, especially in the outlying districts. That's why successful contractors use them.

#### Trailers Increase Capacity of Trucks

The addition of the semi-trailer to the truck gives it a large capacity in hauling materials, especially lumber. The illustration on page 116, showing a truck and semi-trailer hauling a big load of lumber, demonstrates how the powerful truck can transport such loads thru all sorts of road conditions. The photograph was taken after the truck had traveled many miles over muddy roads and thru heavy soil. Altho the mud was up to the hubs of this heavy duty truck, as can be seen, it brought its load to the building job quickly.

What a team would do under such conditions and the quantity of lumber it could haul in comparison with the load shown here can readily be imagined.

Contractors and building material men have turned to the motor truck and trailers as means of increasing their profits by eliminating a part of their hauling costs. There is no field in which trucks have performed such excellent service as in the building field.

#### Lumber Dealers Save Hauling Costs with Semi-Trailers

**S**EMI-TRAILERS with an extension reach are extremely useful pieces of hauling equipment around the lumber yard. This type of semi-trailer triples the capacity of the truck that hauls it, and is adjustable to take almost any length of lumber the dealer has to deliver.

The Edward Hines Lumber Co., Chicago, uses a number of such semi-trailers attached to small trucks to make deliveries to its customers. One of the many trucks and semi-trailers the Hines company uses is shown in an accompanying illustration (page 120).

The advantages of this type of semi-trailer are that it can easily be detached from the truck. The efficient method used is to have two or three such semi-trailers: one to be left at the yard for loading and one at the destination to be unloaded, while the third is attached to the truck being hauled to and from the yard.

#### Semi-Trailer Mounted on Fifth Wheel

Another semi-trailer that is popular for hauling shorter lengths of lumber is shown in another illustration on page 120. This 'democrat' type of semi-trailer, attached to a small automobile, is used by the Fletcher Lumber Corporation. The semi-trailer is mounted on a fifth wheel on the back of the automo-



On the Way to Start the Building Job. E. Brooks & Co., New York City Contractors, Load Their Equipment Into Their "Republic" Truck and Carry It to the Building Site. Then the Truck Keeps the Materials Coming Until the Job Is Finished.

# Get the Idea of the Martin Method



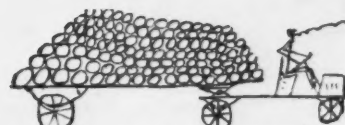
A horse cannot carry more than 1-4 ton



But can easily pull a ton



A runabout will soon break down under a ton strain

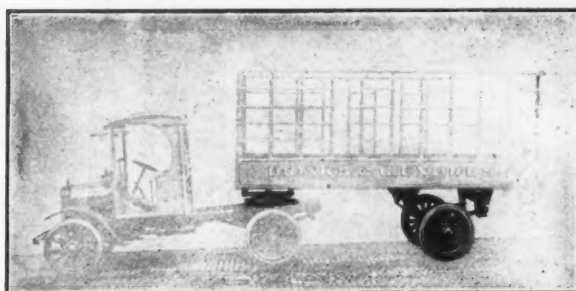


But the same runabout can easily pull 3 times its carrying capacity

THE MARTIN METHOD multiplies the load-carrying capacity of the automobile three fold.

THE MARTIN METHOD is based on the famous Martin Rocking Fifth Wheel, which makes the connection between the motor chassis and the Semi-Trailer.

THE MARTIN METHOD combines perfect steadiness with the necessary amount of flexibility.



Martin Fifth Wheel and Rear End Assembly Shown in Relief

THE MARTIN METHOD makes a very small investment bring your motor truck up to date, and with increased load-carrying capacity.

THE MARTIN METHOD is immediately available. We supply parts or Semi-Trailers complete.

Write for our interesting and fully priced catalog showing Fifth Wheels, Rear End Assemblies and Semi-Trailers, 1 to 10 ton capacity.



Martin Patent Rocking Fifth Wheel

## Martin Rocking Fifth Wheel Co.

P. O. Box 1244-b  
SPRINGFIELD, MASS.

Manufacturers of Martin Rocking Fifth Wheels, Semi-Trailers, Semi-Trailer Parts, Rear End Assemblies, Floating Bearing Axles, Castor Jacks



Martin Rear End Assembly

## Miami Trailers will solve your *Bulky Load* problems!

Each of the twenty different Miami Trailer models gives the greatest possible efficiency in handling the class of load for which it is designed to carry.

Every contractor knows that loads cannot be altered to fit trailer construction—the trailer must be designed for the load to be hauled.

For instance, no "jack-of-all-trades" trailer can be used regularly to handle 23 to 35 beams or poles or other long lumber.

That Miami Pipe and Pole Trailers reduce the hauling cost of such loads may be taken for granted. Yet, because of their "design to fit the job," they reduce handling costs tremendously!

*Tell us what you haul—how and in what size loads. We want you to have our literature.*

**The Miami Trailer Co.**  
Troy, Ohio, U. S. A.

### Miami Trailers

are built in all capacities from 800 to 6000 lbs.

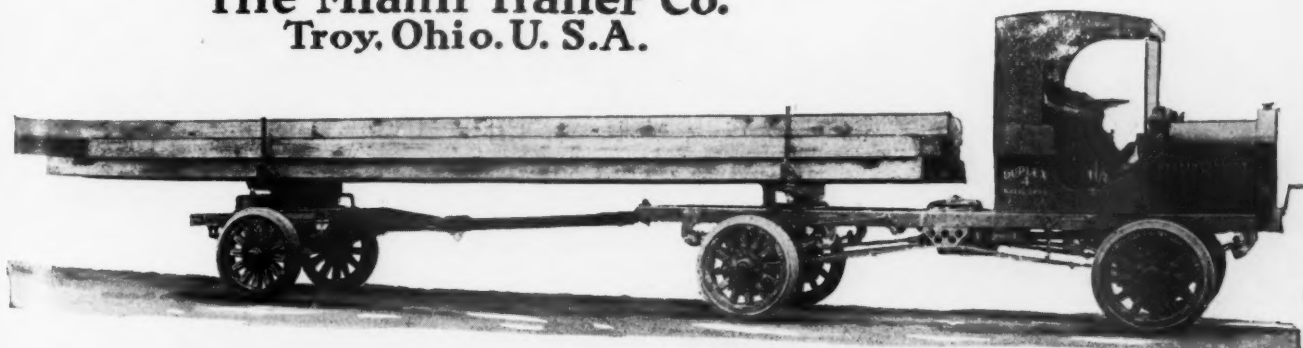
There is a body design for every business—over twenty-five in all.

Our line includes:

**Four Wheel Trailers** from 1250 lbs. to 3 tons.

**Two Wheel Trailers** from 800 to 2000 lbs.

**Pole and Semi-Trailers** from 1 to 5 tons capacity.



bile, which allows it to be turned and backed in the same manner as a wagon.

This fifth wheel method of attaching the semi-trailer

of the semi-trailer. This removes a great deal of the burden of the truck and at the same time permits it to haul a much larger and heavier load.

There are various types of trailers and semi-trailers now manufactured that are designed for the use of lumber and building material dealers. Their use is becoming more and more general, because they cut the cost of hauling for lumber dealers.



### Material Men Use Dump Body Trucks for Sand and Stone Hauling

**D**EALERS in builder's supplies use dump body motor trucks to handle sand and crushed stone. The power hoist permits the unloading of these materials quick-

ly and without loss of the time of the truck and driver. That's why they are economical to operate and cut the hauling cost.

In an accompanying illustration is shown one of the seven trucks used by the H. H. Dickinson Builders' Supply Company, Detroit, Mich. The Dickinson company has five yards in Detroit and does a large business both in that city and the surrounding territory. By the use of trucks the company is able to make quick deliveries both to the city contractors and to their rural customers.

The company purchased its first truck, a three-tonner, in 1917 and found it so efficient and econom-

(Continued to page 124.)



A "Martin" Semi-Trailer, Attached to a Small Runabout, Does the Delivering for the Fletcher Lumber Co. Note How Flexible this Equipment Is Thru the Method of Attaching the Trailer to the Automobile.

to the truck is now used by a number of trailer manufacturers. It provides both a stabilizer and turning bearing, for its broad circle prevents the trailer from tipping. It also allows the back wheels of the truck to take a declivity in the road without danger of straining any part of either the truck or trailer.

What has made trailers and semi-trailers popular with lumber dealers is the fact that they greatly increase the capacity of the truck without materially increasing the investment or the cost of operation. It is a well-known fact that an automobile can haul two or three times the load it can carry. The semi-trailer permits the load to be balanced on the rear wheels of the truck, giving them greater traction, and the wheels



One of the Many One-and-One-Half-Ton "Martin" Semi-Trailers Used by the Edward Hines Lumber Co., Chicago. The Extension Reach Permits this Trailer to Be Used in Hauling Lumber of Various Lengths.





## Eleven Years of Trucking Efficiency

**E**VERY Kissel Truck represents eleven years of truck experience and experiments—investigations and tests—with never a failure—and the first Kissel Truck still in active service.

Such trucking efficiency calls for unlimited hill-climbing power, speed ability on good roads, wear-ability on bad roads, emergency capacity, rapidity of loading and unloading, ease of operating and driving in traffic zones, at low upkeep. These truck requisites—that result in uninterrupted transportation—are built into Kissel Trucks and are absolutely necessary to solve the unusual transportation problems which owners in the building business have been called upon to face.

Purchase motor trucks as you purchase any other part of your equipment. You will find it's good business practice from every standpoint.

Kissel Trucks Dealers are in every principal city.  
Literature on request.

KISSEL MOTOR CAR CO., Hartford, Wis., U. S. A.

# KISSEL TRUCKS



## Profit-Making Barns For Both Owner and Builder

Milk is an "essential" of life. **More** milk is the imperative need and demand. More and better dairy barns are absolutely necessary—for **better dairy barns result in more and better milk.** That's why there should be a great increase in **better** dairy barn building.

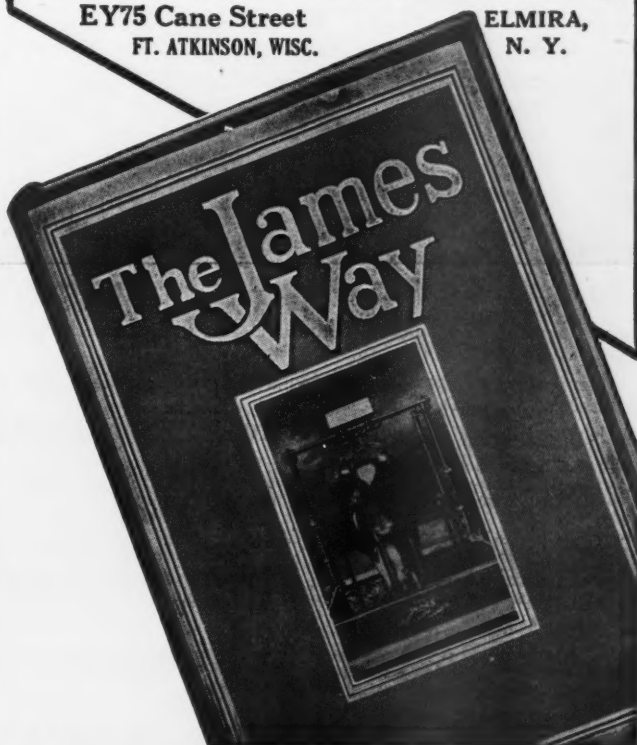
Why not get your share of the contracts for these barns?

We are in position to help you do this very thing.

**Write Us For A Free Copy Of That Famous Book "The Jamesway"**

When writing send us the names of farmers who are thinking of building or remodeling barns and give us the size of their herds. We will send advertising literature to those farmers which will help persuade them to build new barns.

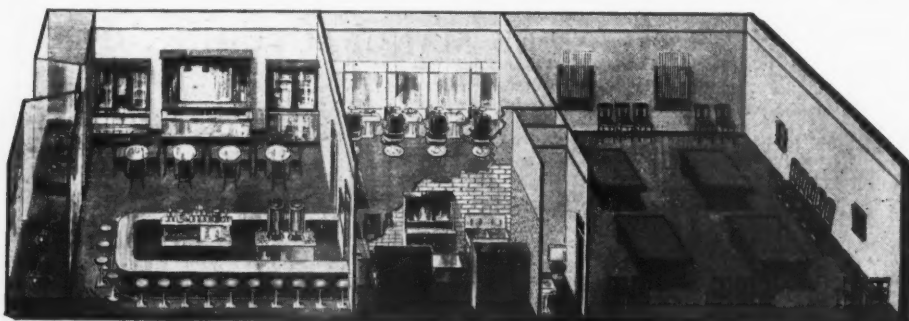
**JAMES MANUFACTURING CO.,**  
EY75 Cane Street  
FT. ATKINSON, WISC.      ELMIRA,  
N. Y.



# REMODEL 100,000 SALOONS



**Soda and Lunch Parlor** To the Buffet Owner who wants to enter a new business on a large scale, this High Class Soda-Lunch Parlor offers a wonderful opportunity. Let us tell you about it.



**The Combination Room**—The logical successor to the bar as a gathering place for men. The Combination Room illustrated includes soda parlor, lunch room, barber shop and billiard parlor as well as cigar and candy counters. Each feature draws trade to the others and increases the proprietor's profits. We can install these rooms complete. Write for details.

How many of the 100,000 saloons will you remodel? It's up to you to see the saloon owners *first* and make suggestions. Our books will help you.

## Write for the Catalog That Interests You

**Book No. L19.** General Catalog, listing EVERYTHING for Hotels, Clubs, Restaurants, Cafeterias, Lunch Rooms, Institutions and Public Buildings. A great handbook to right buying.  
**Book No. L10.** Lunch Room and Cafeteria Equipment.  
**Book No. L62.** Billiard Supplies.  
**Book No. L101.** Billiard Tables.  
**Book No. L102.** Barber Shop Equipment.  
**Book No. L100.** Complete Hotel Installations. This book should be in the possession of everyone who contemplates furnishing a new hotel.

**Book No. L35.** Soda Catalog, listing everything for Soda Parlors. Write for this book if you did not receive it. We issue other Soda Catalogs of interest to you, as follows:  
**Book No. L36.** Hot Drink and Luncheon Book.  
**Book No. L24.** Complete Soda Parlor Installations.  
**Book No. L108.** Including Soda Fountains not shown in other Soda Fountain Books.  
**Book No. L106.** Show Cases, Wall Cases and Store Fixtures.

THE days of the saloon are numbered---absolute prohibition, if not already a fact is now only a matter of months.

Hundreds of far seeing saloon owners are already facing the inevitable squarely---they see the advantage of keeping ahead of the other fellow and are looking around for a business more stable than the saloon. Thousands of others are only waiting to be sold on the idea of remodeling.

## Here Is Your Opportunity

Hundreds of thousands of dollars will be spent in remodeling saloons—a share of this belongs to you. We will help you get it.

Let us show you what can be done with a saloon to make it over into a profitable establishment. We have compiled our sixty years of experience into the series of books listed below. They contain hundreds of valuable layouts and suggestions for the contractor—they are yours for the asking.



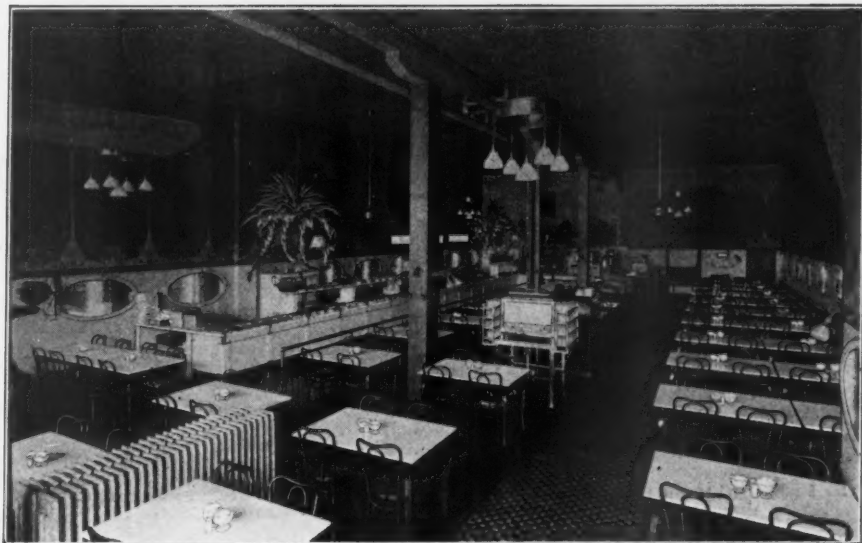
# WITH PICK EQUIPMENT

## Let Us Help You!

We are America's largest furnishing and equipment house. We completely equipped the Hotel Winton of Cleveland, Fort Des Moines Hotel of Des Moines, Iowa, the Blackwood Apartment Hotel of Chicago, the Hog Island Housing project and hundreds of other enterprises.

We have had broad practical experience in laying-out and installing school lunch rooms, factory rest rooms and cafeterias, soda fountains, barber shops, billiard rooms and other projects.

All this wealth of valuable knowledge, acquired through 60 years' experience is at your command. We stand ready to give you any advice or information you desire. By calling on us you will greatly simplify your problem. This puts you under no obligation.



Interior of White's Cafeteria, Indianapolis



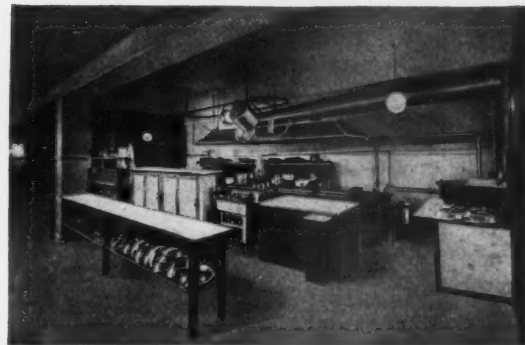
Lunch Room, Rice Hotel, Houston — Installed in the old bar room of the Rice Hotel



Boerth's Spa (Cafeteria), Detroit



A Model Inexpensive Soda Parlor—Laid out by Pick's Service Men, and equipped complete



Ottumwa Hotel Kitchen, Ottumwa, Ia.

**ALBERT PICK & COMPANY**  
208-224 W. RANDOLPH ST. CHICAGO, ILLINOIS





(Continued from page 120.)

ical to operate that it quickly added a five-ton truck and later purchased five more of the same kind.

G. C. Linden, the traffic manager of the company, is warm in his praise of the economy secured thru trucks. "We found a vast difference in our hauling

### Keeping the Truck Out of the Lumber Yard and at Work

THERE is no economy in having the motor truck stand idle in the yard while the men load it. Instead, by being able to get the load on the truck and start it off for its destination quickly, the truck and driver are doing their most efficient work.

That is the theory on which George E. Waters & Co., of Baltimore, Md., work. They have built a loading platform on which the lumber is piled while the truck is making a delivery and when it returns the lumber is quickly transferred from the platform to the truck, and it is ready to make another trip.

This fast and cheap method of transporting lumber is accomplished thru the use of a truck that is equipped with rollers partly sunk into the floor of the truck and by having rollers in the floor of the platform. The lumber is piled on the platform rollers, and by turning two cranks the lumber is rolled onto the truck.

#### Save \$1,344 in Nine Months

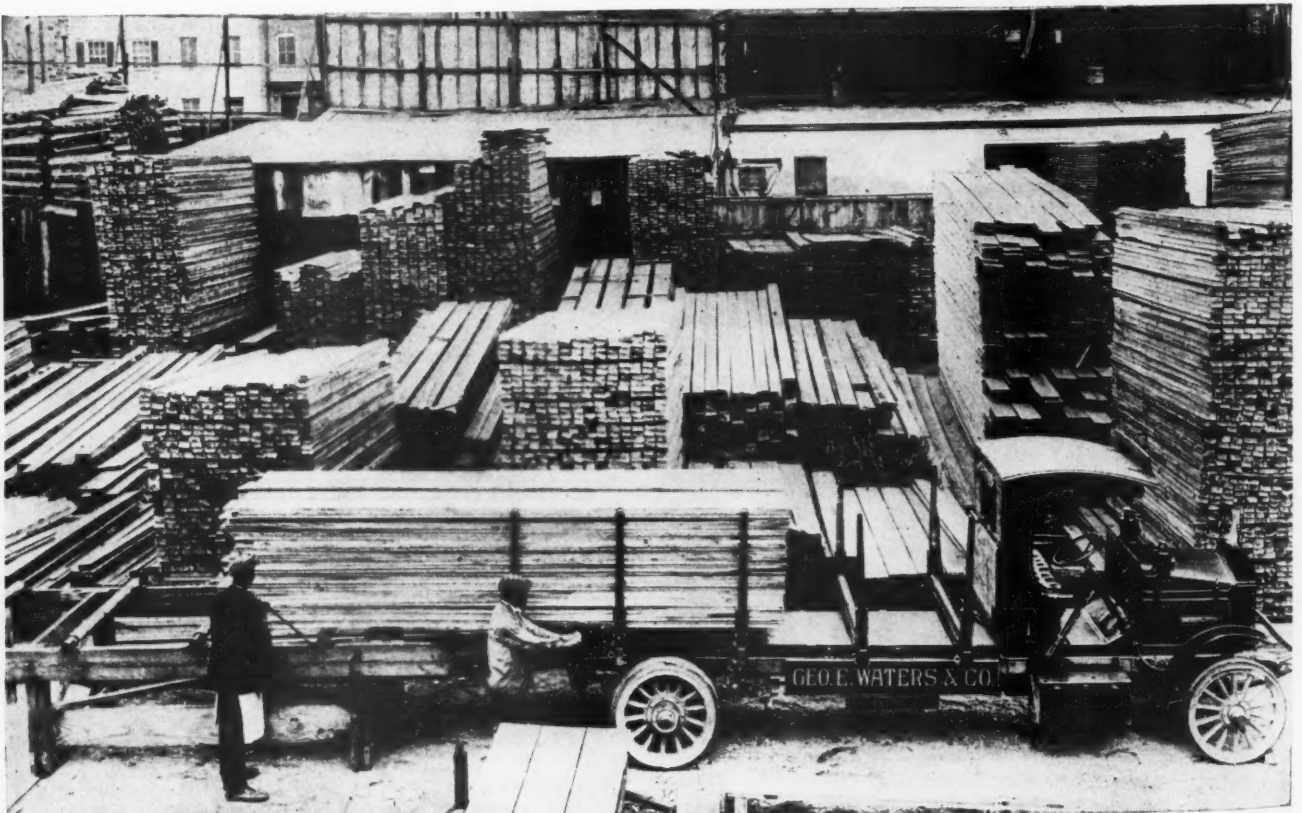
While this is only a two-ton truck, it accomplished a saving of \$1,344 in nine months, according to the records of hauling costs kept by this firm. The con-



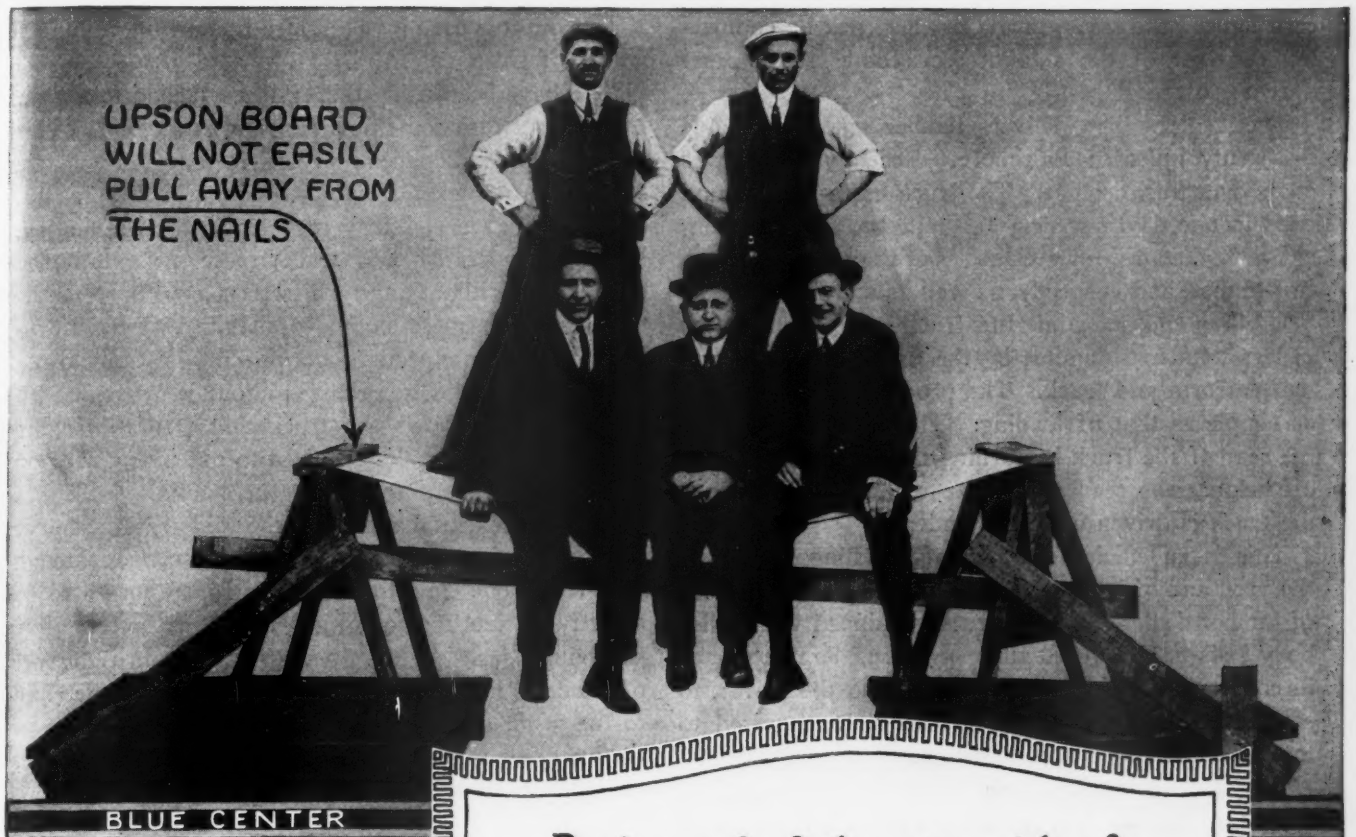
The H. H. Dickinson Builders' Supply Co. Use Seven Big "Packard" Trucks to Transport Materials from Its Five Yards in Detroit.

costs thru the use of trucks," says Mr. Linden. "They carry heavy loads, are easily unloaded and do everything that is asked of them."

The trucks this company uses are built especially for hauling heavy loads. The solid wheels, rigid frame and powerful engine combine to make them stand up under all sorts of conditions. The hoist is operated by the driver, who does not have to leave his seat.



George E. Waters & Co., Baltimore, Md., Have the Lumber Piled on a Platform with Rollers and Easily Transfer It to the Two-ton "Pierce-Arrow" Truck that Carries It to the Customers. There Is No Loss in the Truck's Time in the Yard by this Method.



## Real proof of the strength of **UPSON-BOARD**

**H**OLDS to the nails when other boards pull away—that's Upson Processed Board! It holds because it is nearly twice as strong as other wood pulp wall boards.

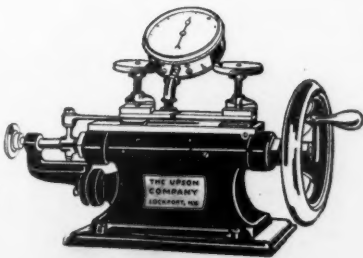
The truth of this statement is evidenced by the photograph above. A single panel of  $\frac{1}{4}$ " board is supporting the weight of five men, or more than 700 pounds. Plaster would crack with a single man on it, while soft, spongy "fluffed" boards would easily break away from the nails.

Upson Board is the strongest, hardest, stiffest and most dependable pulp board made.

When you finish a job with Upson Board you never need to worry about its giving satisfaction—because we average less than one complaint to every 3,000,000 feet sold and used.

Protect your reputation by always specifying Upson Board.

THE UPSON COMPANY, LOCKPORT, N. Y.



Here is a scientific test on a testing machine which shows the breaking strength of wall board. A strip of Upson Board 1 inch wide stands a tensile breaking test of more than 450 pounds. Other wood pulp boards, usually weak, soft and spongy, stand only 300 pounds.

This test, like the one above, clearly demonstrates why Upson Board does not pull from the nails; why Upson Board lays flat; why Upson Board stands jars and jams; why Upson Board is easier to cut, fit and handle.

Whenever you see a board with a colored center think of the creator, Upson Processed Board, with its Blue-center.



*Better than plaster for walls and ceilings*

# UPSON-BOARD

THE DEPENDABLE BOARD WITH THE FAMOUS BLUE CENTER

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



cern figured the saving made by the truck by comparing the cost of the amount work done with horse-drawn haulage.

The Waters firm delivers lumber within a radius of twenty miles of Baltimore. Recently a test was made over this distance. The truck made three round trips in one day, covering 120 miles, which is a considerable distance for a truck. But the truck used is a two-tonner, and is speedy, as well as sturdy.

Loading and unloading this truck were accomplished in less than five minutes by the use of the rollers in the platform and truck. The process of unloading is as simple as that of loading. The load is carried to the rear of the truck by turning the rollers, and when off balance the rear end drops to the ground. Then the truck is driven out from under it.

This is an efficient method of handling lumber in the yard and of hauling it to the customer. Hundreds of lumber dealers now use trucks equipped with roller body beds and find that they save considerable money in conserving the time of the truck and the driver, to say nothing of the labor that would be required to unload the truck at its destination.



#### Trailer More Than Doubles Capacity of This Lumber Dealer's Truck

**H**OW greatly a trailer increases the capacity of a truck is shown by the accompanying illustration. On the truck there are 40 bundles of shingles; on the trailer there are 50 bundles of shingles.

This outfit is used by Theodore E. Rechtin, a lumber dealer, of Evansville, Ind.

"We have been using this trailer attached to a light 1½-ton truck for some time," says Mr. Rechtin. "This outfit has proved exceedingly satisfactory and we have been able to make deliveries far more cheaply and quickly than we could by the old system of hauling. We have operated this trailer with practically no trouble and without any repairs. We consider this the fastest and cheapest method of hauling we have ever tried out. We expect to continue its use and do not see how we could get along without it."

The picture shows the truck and trailer bringing in one load the shingles required to put a new roof on the house in front of which the hauling outfit has stopped. Incidentally it might be said that the house looks as tho it needed reshingling. To convey enough shingles at one time to cover this roof appears to be a pretty efficient method of getting materials to the job.

Savings such as Mr. Rechtin makes thru the use of modern hauling equipment are worth while, add to the profit of the dealer and keep down the cost of the materials to the customers, two things every lumber dealer likes to do.



#### Delivering Millwork Quickly

**S**ASH and doors and the other millwork that go into buildings are what might be termed "unwieldy" to handle and to deliver to the building job because of the shape of the made-up material, heavy



Theodore E. Rechtin, Evansville, Ind., Operates this Small Truck and "Trailmobile" to Make Deliveries of Lumber. He Considers this the Cheapest and Fastest Method of Hauling.



## Waterproofing and Waterproof Paint Products

Every building you build needs waterproofing, damp-proofing or protective paints of some kind.

One of the 18 Ceresit Products will meet your need and give dependable results.

Ceresit makes basements, cisterns and other work waterproof for all time. Cem-bric is a waterproof paint for brick and cement exteriors. Indurite is an economical method of hardening concrete floors. When writing for catalogue state which of our products you are most interested in and samples will be sent.

This book is for YOU, and contains 32 pages of practical information for the protection of building construction.

# CERESIT

TRADE MARK  
REGISTERED

Look over this list of Ceresit Protective Products:

### Cement Waterproofing

Brick and Cement Paints

Industrial White Enamel

Damp-proof Plaster Bond

Transparent Waterproofing

### Acidproofing

Foundation Coating

Smokestack Paint

Asbestos Roof Putty

Ready Mixed Paints

Mortar Colors

**Ceresit Waterproofing  
Company**

910 Westminster Building, Chicago

Don't wait to send for your copy of this valuable waterproofing guide. The edition is limited and you may lose out if you don't write today.

Write on your letterhead or send business card for your copy of this 32 page book on waterproofing and protective products for building construction.

loads of it cannot be carried, and speed is the one essential to keep down the delivery cost.

Here is where a light motor truck is useful to the mill owner and the building material dealer. A light truck has almost as much speed as a passenger automobile. It also has the requisite carrying capacity to haul these materials. And when the dealer secures the proper kind of a body for his truck a great many pieces can be transported at one time.



Trucks Are Economical and Speedy in the Delivery of Millwork from the Mill to the Jobber and to the Building Site. Luce Bros. Use this "Acme" Truck to Serve Their Customers.

Luce Brothers solved their delivery problems with the truck and body shown in the accompanying illustration. The broad bed of the truck and the stake body make it an efficient piece of delivery equipment. While the load on the truck shown is small, the stake body permits of the piling on of many more pieces, without lessening the speed with which the load can be taken to the building job.

Haulage is one of the expense items of conducting business that is necessary, especially in the building industry, where the materials handled are very heavy and bulky. The most efficient and economical methods of transportation are necessary. That's why the

motor truck and trailer have come into such general use among contractors and material dealers.



### Carpenters Use Automobiles

Construction work employing a considerable number of men outside of town, or at some distance from the homes of the workers, brings about a condition like that shown in the photograph below. Hundreds of carpenters working on the big army hospital building at Camp Lee, Petersburg, Va., came from town five miles away every morning and returned every night in automobiles of all sorts. The use of a cheap car (if there is such a thing nowadays) or a judiciously bought second-hand car is within the means of many well-paid men, and a good business man will be able to get enough steady passengers among his fellow-workmen to make his car self-supporting. The mechanic can take care of his own car, construct his own economical garage and drive himself and three or more other men to and from work. This means that the owner has a car in which he and his family can go for enjoyable trips on holidays and in the long evenings given him by the daylight saving plan.

FRANK FARRINGTON.



### History of Material Prices During the War

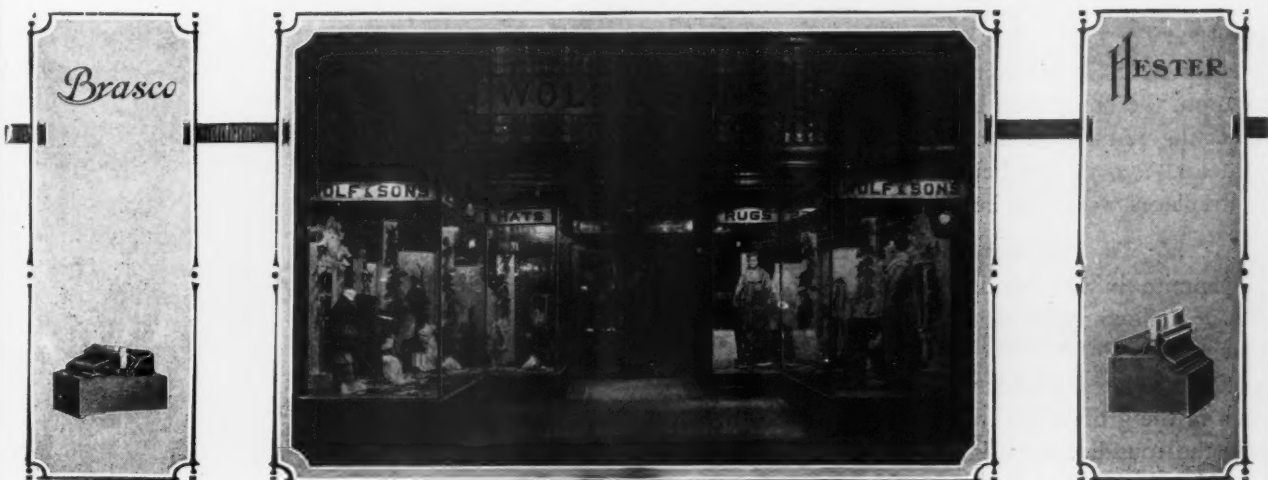
The Price Section of the War Trade Board, at the request of representatives of many trades, has announced that the price inquiry, begun under the War Industries Board, will be put into pamphlet form and distributed in a short time. Fifty-seven bulletins are being prepared. Those of interest to the building industry are No. 6, dealing with the prices of building materials; No. 38, on clay products; No. 40, on quarry products; No. 41, on cement; No. 42, on glass; No. 43, on lumber, and No. 44, on paints and varnishes. These bulletins now are in the hands of the printer and will be ready for distribution in a short time. They may be secured from the Price Section, War Trade Board, Washington, D. C.



Jitneys and Workmen's Cars Play an Important Part in Getting Carpenters and Builders to and from the Job. This Shows the Automobiles of the Carpenters Employed on a Hospital Building at Camp Lee, Va.

# One Hundred Million Dollars In Remodeled Store Fronts

Are You Ready to Grasp Your Share?



**July First** thousands of saloons closed their doors permanently. It has been conservatively estimated that over One Hundred Thousand Saloon Fronts will be remodeled in the next year, which will represent an expenditure in material and labor of \$100,000,000.

When the question of cost is so important a factor you cannot afford to complete your plans for remodeling a single front until you have carefully looked into the merits of Brasco Copper Store Front Construction.

## Brasco

**COPPER STORE FRONTS**

Thousands of merchants are looking for more room or new locations. Thousands of owners are looking for new tenants. Many are now seeking the advice of architect or contractor as their property must not remain vacant, and there are few saloon fronts which can be adapted to other lines.

From the standpoint of attractiveness, durability and real earning power Brasco has no superior and we stand back of every foot of material sold.

Quick execution of your contracts will depend both upon the co-operation you receive from those supplying materials and the promptness with which your orders are shipped.

**If You Want Hollow Type Construction Specify "HESTER"**

We have large stocks of materials on hand at all times and our facilities are such as to enable us to give you the strongest possible support. Let us help you get into action and assist you in handling your share of this great remodeling work. Just what portion of this great sum for re-

modeling work will be spent in your territory should already be well established in the mind of the alert contractor. Upon his **initiative** and **industry** will depend not only the share he is to have in this work but also how well that work will be executed.

WRITE FOR SPECIAL CATALOG No. 24

**Brasco Manufacturing Company**  
5029 Wabash Ave.  
Chicago



*Will outlast them all*

Brasco Mfg. Co., Chicago

Please forward Special Store Front Book No. 24, and oblige.

Name .....

Town ..... State .....

Business .....  
AB-7-19



## Dynamite Used to Wreck Old Stone House

**A**T Mendenhall, Pa., recently a novel method was adopted to tear down an old two-and-a-half story stone house that had been built in Revolutionary days. It was proven to be a method that saves time and labor, whatever else may be said of it.

The house was very solidly built; the walls were 20 inches thick; the window and door castings and floors were of oak and the beams were massive hardwood timbers. Conforming with the old style of construction, the house was built around a large chimney connecting with open fireplaces in the parlor, dining room and two of the bedrooms. This chimney and the fireplaces were also built of stone.

### How the Dynamite was Used

Dynamite in the hands of skillful operators was used. Following is a description of the method employed:

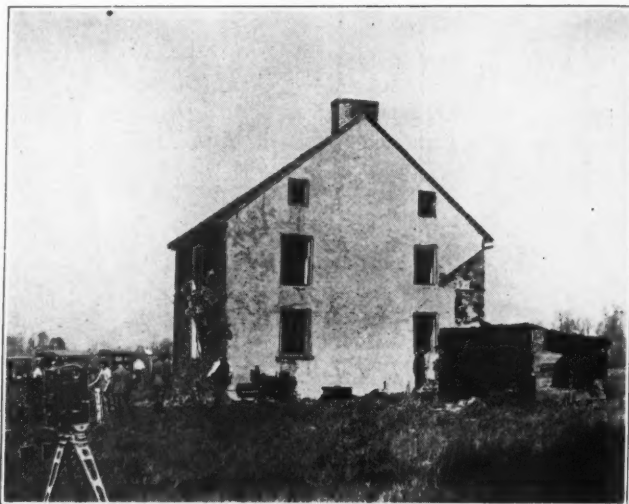
With a pointed steel bar and sledge, holes were put down in the ground all around the house about a foot from the foundation walls to a depth of about 2 feet. A half cartridge of dynamite was exploded in the bottom of each hole to form a cavity into which a large charge of dynamite could be loaded. Twelve and a half pounds of 40 per cent ammonia dynamite were loaded in each of these cavities and tightly tamped in with moist soil. There were twenty of these holes. They were spaced about three to four feet apart. Twenty-five pounds of dynamite were laid on the parlor floor in the corner of the building and covered with about fifty pounds of moist earth and twenty-five pounds more laid on the floor of the fireplace in the dining room, also covered with about fifty pounds of moist earth.

The accompanying pictures show the building as it was before the blast, the blast itself and the remains of the structure after dynamite had done its work.

When the shot was fired, the building just seemed to collapse like a pile of building blocks kicked over by a small boy. While hardly two stones could be found cemented together with the original mortar, the material was not thrown a long distance by the explosive. Instead the whole house appeared to merely cave into the cellar as though the stone had been unloaded from wagons and thrown

carelessly into the basement hole.

The roof and most of the partitions laid in a splintered mass on top of the stone. A fire started immediately after the blast disposed of the dry wood in a few minutes, leaving the stone in condition to be carted away as soon as it had cooled. The entire job



Stone House, with 20-Inch Masonry Walls That Was Wrecked with Dynamite.

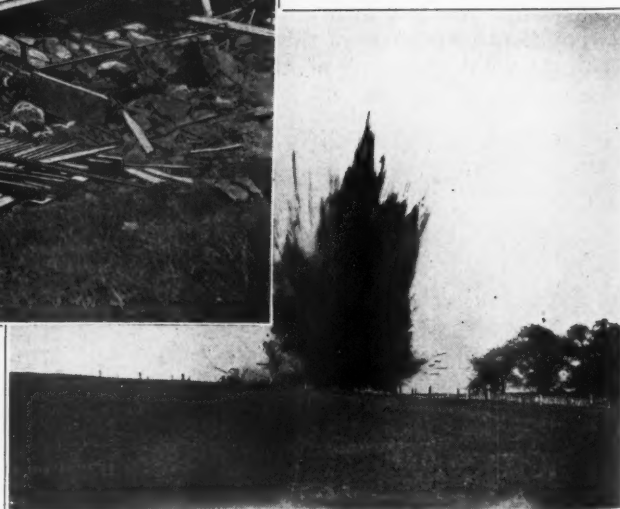
required the time of five men for four hours. A contractor who witnessed the work stated that, in his judgment, it would have taken five men fully two weeks to have torn down the building by ordinary methods.

Of course, this method of destroying old masonry structures can only be recommended when they are located in the country at a considerable distance from

other structures that might be injured by flying debris. It is a method especially applicable to the quick destruction of old farm buildings.



After the Blast There Hardly Was One Stone That Had Not Been Separated from Another.



The Blast That Wrecked the House.

**The CONCRETE BUILDER**  
Devoted to the Use of Concrete for Farm and Home  
Vol. 2 No. 3 May-June

**Concrete Houses**  
and Why to Build Them  
"Concrete for Permanence"  
Published by Portland Cement Association  
111 West Washington Street  
Chicago

**Recommended Practice for Portland Cement Stucco**  
Published by Portland Cement Association  
111 West Washington Street  
Chicago

**Concrete Foundations**  
Published by Portland Cement Association

**Concrete Building Block and Brick**  
Published by Portland Cement Association

**Concrete Septic Tanks**  
A sanitary method of sewage disposal where the advantages of a city or town sewerage system are not available.  
Published by Portland Cement Association

**Concrete Troughs Tanks and Cisterns**  
Published by Portland Cement Association

# Use More Concrete

Blueprint plans of hog, poultry, milk and smoke houses, septic tanks, manure pits, hog wallows and similar concrete structures for town or country can be had for the asking.

Our many booklets, only a few of which are illustrated here, will give you other suggestions for using more concrete. These also are free.

What would you like to know about concrete and how to use it? Simply write our nearest District Office.

## PORTLAND CEMENT ASSOCIATION

Offices at

ATLANTA	HELENA	PARKERSBURG
CHICAGO	INDIANAPOLIS	PITTSBURGH
DALLAS	KANSAS CITY	SALT LAKE CITY
DENVER	LOS ANGELES	SEATTLE
DES MOINES	MILWAUKEE	ST. LOUIS
DETROIT	MINNEAPOLIS	WASHINGTON
	NEW YORK	

**Concrete for Permanence**

## An Artistic Sleeping Porch

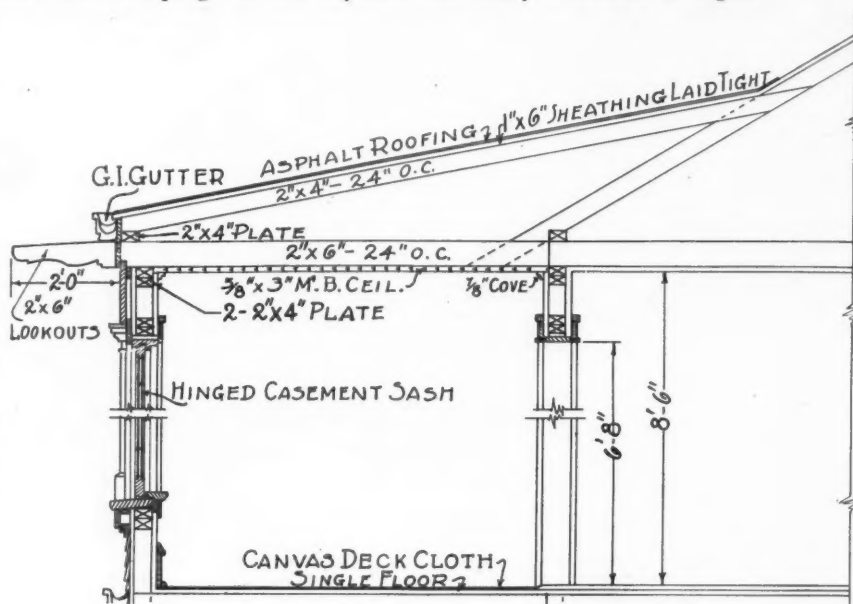
**H**ERE is an artistic sleeping porch in connection with a shingled house. The pergola effect of the roof, the casement windows and the shingled walls combine to make this sleeping porch one that will appeal to owners of houses of this type.

The accompanying perspective shows what a fine addition this will make to shingled homes, either as a piece of original construction or as a remodeling job. The cross section shows the construction methods and the materials used.

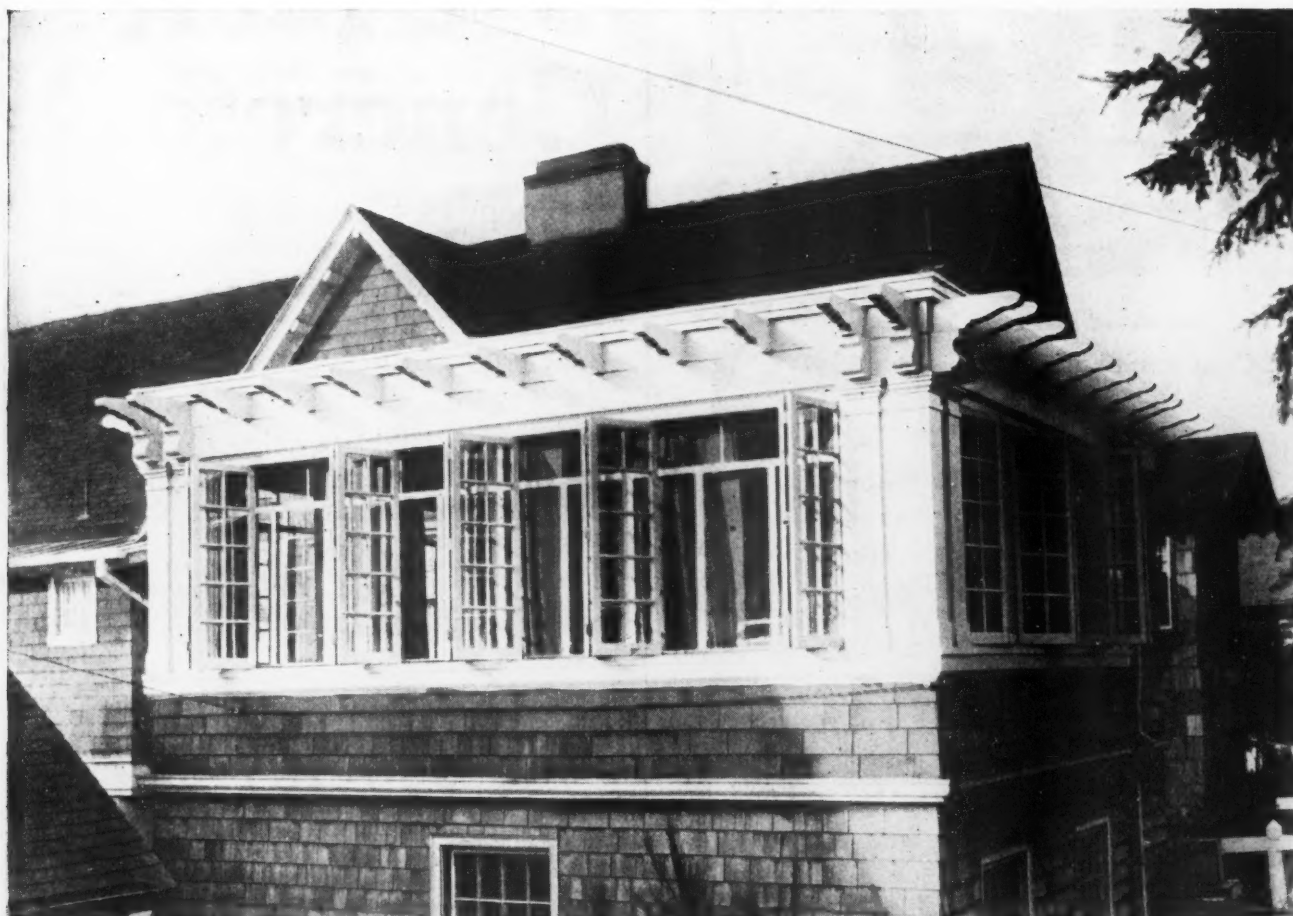
What will be of particular interest to builders is the method of constructing the window frames. Special frames are needed to install casement windows of the type shown in the perspective. Another unusual feature is the single floor, made sound-proof and weather-proof by the canvas deck cloth.

The sleeping porch is a feature that is built into practically every

modern home. It can be made to serve the double purpose of a sun parlor and sleeping porch by installing a concealed bed, which is out of the way in the daytime and easily available at night.



Cross-section of Artistic Sleeping Porch. Note the special framing for the Casement windows.



A Sleeping Porch that Is Both an Attractive and Comfort-giving Addition to a Shingled House. The casement windows permit plenty of Ventilation.



# DOES THE WORK ON YOUR JOBS NEED SPEEDING UP?

Are you making the maximum profit?

Are you paying your men high wages and letting them stall for hours each day, because some of your equipment breaks or does not produce with sufficient speed to keep them busy?

Are you worrying and continually purchasing repairs for machinery that you know now was no good even when it was new?

If you are letting these things halt and hinder you at every turn, you are courting financial failure and a mental and physical collapse.

And we know that if you are permitting such conditions to sap the big profit from your construction jobs, you have never become acquainted with

## WATERLOO MACHINES

The Mixer pictured is the best all-around utility machine on the market. It is a Quick, Convertible Mixer, and can be changed from side discharge to end discharge, or vice-versa, in a very few minutes. Reliability, efficiency, low operating cost, maximum production and perfectly mixed concrete are only some of the things that make it the choice of many contractors.

But we manufacture many different sized mixers, large ones and small ones—they all embody every labor and time saving improvement. If your needs call only for a small mixer, we have one that will make you money. If you are a big contractor, Wonder Mixers will produce for you.

Write us and tell us your needs—advise with us as to what you shall buy for we know mixers and can tell you what will best suit your particular case.

We want to help you increase your profits and you can rely on us.

### WATERLOO CONSTRUCTION MACHINERY COMPANY

Formerly  
WATERLOO CEMENT MACHINERY CO.

103 Vinton Street  
WATERLOO, IOWA

Manufacturers of  
**MIXERS  
PAVERS  
HOISTS - PUMPS  
BACKFILLERS  
AND  
CONTRACTORS'  
EQUIPMENT**

Branches in all Leading Cities

NEW YORK - CHICAGO  
PHILADELPHIA KANSAS CITY  
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Built in Capacities of  
3, 4, 5 and 7 cu. ft. per batch



# STRUCTURAL TILE WORK

for Houses, Farm Buildings,  
Stores, Garages, etc.

Conducted by  
**H. S. BRIGHTLY,**  
Hollow Building Tile Con-  
struction Engineer

*If you will send us a plan or sketch of the building you are thinking of erecting, Mr. Brightly will tell you about the sizes, shapes and quantities of hollow building tile that will best serve your requirements.—EDITOR.*

## Hollow Building Tile Helps to Win the War

THE EXTENSIVE AND VARIED USAGE OF THIS PRODUCT IN CONNECTION WITH WAR EMERGENCY CONSTRUCTION

By H. S. Brightly

**I**N the April number I told of the government's extensive use of hollow building tile construction during the war period, with particular reference to the housing of war workers. In concluding this article I stated that another article dealing with the other structures mentioned would appear in a later number. It is therefore my intention to tell the readers of these other varied uses of hollow building tile construction this month.

One of the early war structures to be erected of hollow tile was a small three-story building for the Ordnance Department in Washington. This building, I believe, was originally for the storage of the plans and records of this department, but was soon outgrown and turned over to the Quartermaster's Department for other purposes. On account of the original purpose for which it was built it was deemed necessary to have a fireproof structure, so that these valuable records could be kept safe from destruction in case of fire in the temporary department buildings adjoining the site of this building. The speed with which this all fireproof building was erected and the very satisfactory showing in cost that was made, even in face of the conditions of forced rapid construction, undoubtedly had a lot to do with the later extensive use of hollow building tile construction in the larger projects—the storage depots and manufacturing plants of this department.

The building just referred to, which is illustrated

by Figure 1, has hollow tile bearing walls carrying long-span fireproof floor and roof construction, which consists of a combination of "T" section reinforced concrete beams with hollow tile pillars between same. There is a central girder supported on columns of reinforced concrete, and the floor and roof span the distance between this central girder and the side walls. The walls, floor and roof were erected in seventeen days from the time the footings were in place. It will be noted from the illustration that the window frames are metal, which were glazed with wire glass. These frames were built in as the hollow tile walls were erected. Note also how the wall is panelled with recesses at the windows. This gave a very pleasing effect after the stucco was applied, relieved the monotony of an otherwise plain wall and nothing more in the way of architectural treatment of these walls could be desired in such a building for purely utilitarian purposes. The floors have a cement finish and there is no part of this structure that is combustible. It is, therefore, an example of low cost fireproof construction, completely dispelling the idea that such buildings are rather costly in money and time required for erection.

Anyone desiring to erect a small factory, shop or storage building that is both permanent and fireproof need not be deterred by the unwarranted but somewhat prevalent idea of high cost, and can take this building, which, altho hurried to completion regardless of

# PROUD OF YOUR TOOLS ?

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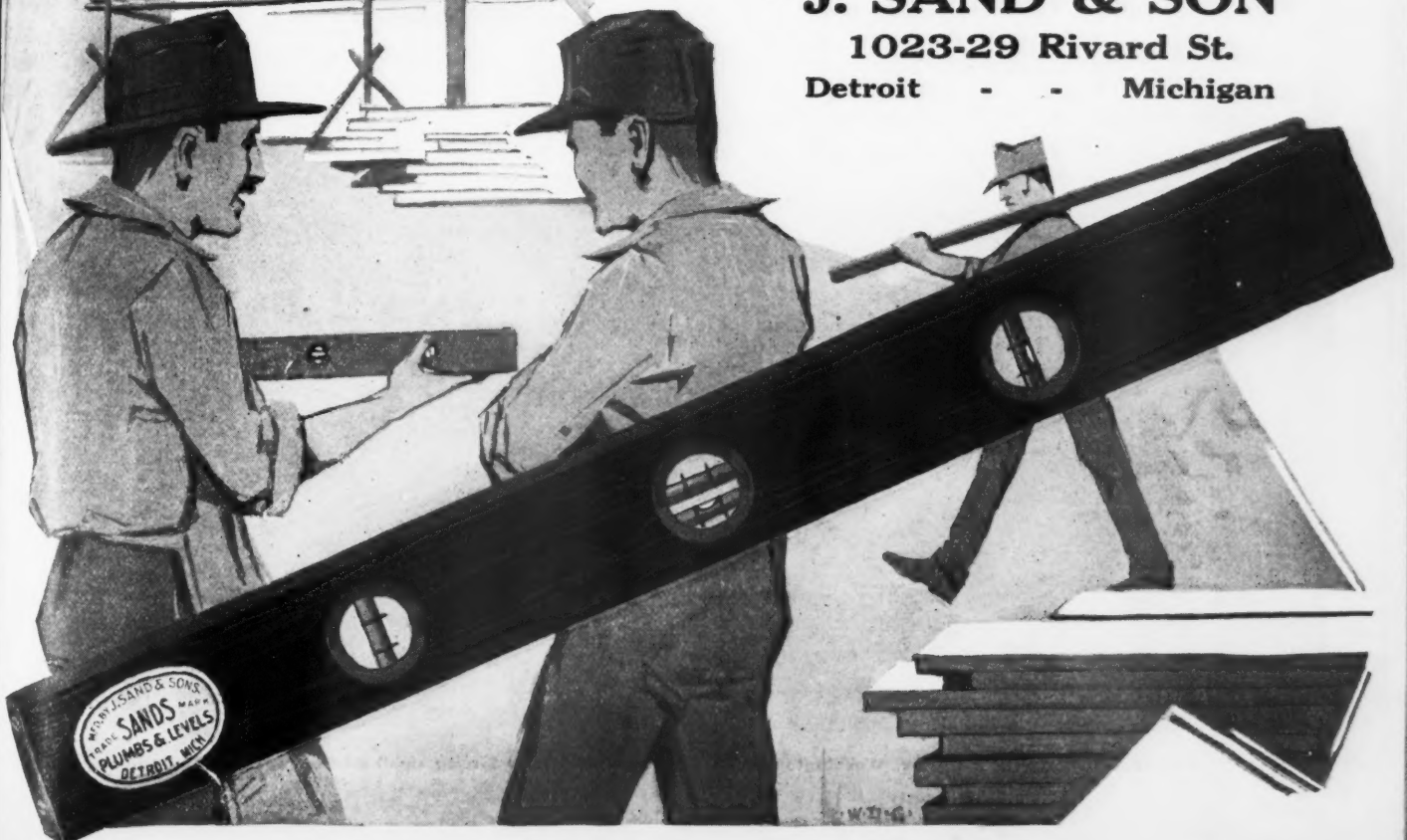
Your Dealer knows Sand's levels—knows their excellent qualities. In case he hasn't any in stock, write us direct. We want to send you our catalogs describing our full line of levels especially our Famous Six Glass Aluminum Levels.

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extra cost for overtime, etc., owing to the war emergency, still made a most satisfactory showing in cost.

When the plans for the large office building for Engineering Branch of Ordnance Department were prepared, it was also considered necessary to build a fireproof structure to house the most important bureaus of this branch of the War Department and their valuable records. Hollow building tile was again used thruout. In this structure, which is illustrated by Figures 2 and 3, the tile walls also carry the floor loads; all floors and roof being of long-span fireproof construction of hollow tile and reinforced concrete, of the system which I have already referred to, over which finished floors of wood were placed, except in the stair towers and vaults, which have cement floors. The stairs are of reinforced concrete construction, separately inclosed with fire walls. This large building is really a most notable structure and one that clearly demonstrates the advantages of hollow building tile for rapid construction and its adaptability to pleasing forms of architectural expression, combined with the required structural service; its low cost, economy in form labor (and consequent saving in labor expended for purely temporary work), and last, but not least, its incombustibility, permanence and resistance to the destructive action of the weather and consequent low maintenance cost.

This building also has metal windows thruout and



Fig. 2. Main Entrance to the Large Ordnance Engineering Building, Washington, D. C. Except for the wood finished floors, this is an all-fireproof building.

the various wings of the building are divided by fire walls of hollow tile with standard fire doors, so there is no question regarding it being about as fireproof as it is possible to make such a structure. A fire starting in any section would be confined both to the floor and the wing in which it originated, even if it were unnoticed and allowed to burn itself out no material damage to the building would result. The chances are it would be extinguished long before it had gained headway or



Fig. 1. Ordnance Department Building, Washington, D. C. An excellent model for the small all-fireproof factory building.



# Kawneer

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that the eyes of pedestrians travel no higher than the store fronts. And that no matter how elaborate a building may be above the ground floor, it is money wasted if the store fronts are not equally or more than equally attractive.

For the same reason he knows that an antiquated building may be modernized by simply substituting modern store fronts.

## The Honest Builder Knows

that Kawneer Store Fronts are actually superior. Their superiority in beauty—is visible to the eye. Their economy is visible both in the price lists and in their long wear.

Kawneer Fronts are made entirely of metal—copper or bronze. They are furnished complete from sidewalk to I-beam.

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that for reputation-building, the Kawneer installations are a tremendous aid. A pleased customer—who will advertise the builder by word of mouth—is invariably the result. And the Kawneer-equipped building is a monument to the builder's ability—one that he can point to with pride as "one of his jobs."

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Fig. 3. View at Rear of Ordnance Engineering Building, Showing the Ends of Wings. This building is in the form of a comb, having a long main section or head house, with wings projecting from one side of same, and open courts between.

accomplished any serious damage, even to the section in which it occurred.

When plans were made to overcome the shortage in nitrates and to make this nation largely, if not entirely, independent of imports from other countries for this most important commodity for both war and peace requirements, hollow building tile was the material de-



Fig. 4. Regenerator Building at One of the Large Explosive Plants Operated Under Government Control.

cided upon for the inclosing walls of the proposed plants. In connection with these nitrate plants some of the walls are sixty feet in height, indicating the adaptability of this material to unusual requirements.

A number of large munition plants were built of hollow tile, two of which are shown in part by Figures 4 and 5, Figure 4 showing the regenerator plant at one of the large explosive plants, and Figure 5 one of the buildings at a large ordnance equipment manufacturing plant. Both of these plants cover a great many acres of ground and the buildings illustrated merely indicate the type of construction used.

Figure 5 admirably illustrates the adaptability of hollow building tile construction to the moderate size modern factory building.

A short time after these plants were started a number of other large plants for the production of acids and other raw materials used in the manufacture of explosives and gases, were designed to be built of hollow tile construction, but the signing of the armistice stopped work on these plants before the work had advanced far enough to warrant the illustration of same in this article. For the erection of acid and chemical plants hollow building tile presented an additional feature of value, that of being reasonably non-absorbent and not effected by acid fumes. It can further be manufactured with an impervious salt glaze surface



Fig. 5. One of the Smaller Buildings at Large Manufacturing Plant for Ordnance Material.

pecially for these purposes. In fact, hollow building tile was used for the construction of ovens and retort enclosures in some of these acid plants where it must constantly resist the action of acid fumes.

Another phase in the use of hollow building tile for war emergency construction is shown by the very extensive use of same for the construction of storage buildings. Walls of two of the great port terminals were constructed almost wholly of hollow tile. One of these, the Charleston, N. C., Terminal, is shown by Figures 6 and 8. The buildings at both these terminal depots cover many acres of ground and were planned for the storage of munitions accumulated at these ports for regular shipment to supply the overseas army. These port terminals, if not required by the War De-



Fig. 6. View Showing Construction of Storage Building at the Great Charleston, S. C., Port Terminal. The construction of dividing fire walls is clearly shown.





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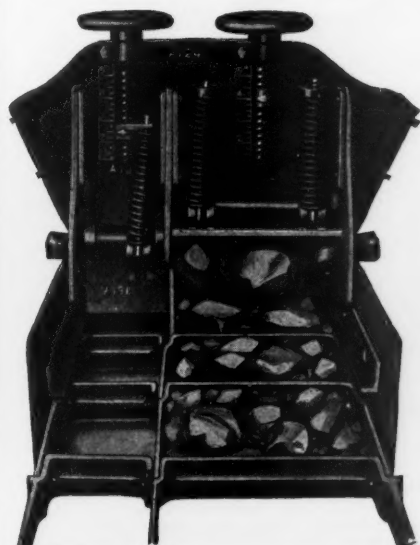
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partment in the future, will doubtless serve as valuable freight terminals, already prepared for the foreign commerce that is now knocking for admittance at the doors of the nation. Manufacturers will find port facilities that were not dreamed of before the war. If these buildings had been temporary structures they would soon fall into decay and be a constant menace to the community and be unsuitable for future use over any reasonable period, whereas the fire resistive hollow tile structures will doubtless, with minor changes, form a permanent addition to the country's port facilities.

In the construction of the Quartermaster Department's interior storage depots, another branch of the

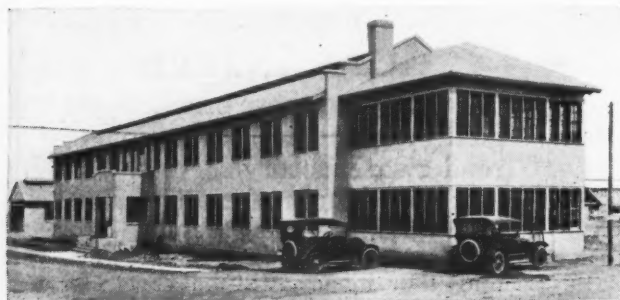


Fig. 7. Officers' Quarters at War Department General Hospital No. 21, Denver, Colo. This hospital comprises over 60 separate buildings, additions to which have since been made.

storage facilities for the maintenance of the army, hollow tile proved a most satisfactory material and was very extensively used. These buildings are similar in plan to those at port terminals shown by Figure 8.

In the April article on "The Government's Use of Hollow Tile Construction for Housing" I mentioned the extensive use of hollow tile for hospitals. Several large and important base or general hospitals were built of hollow tile and will undoubtedly be converted

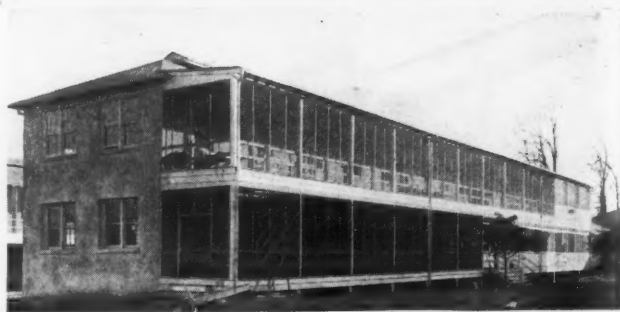


Fig. 9. View Showing Type of Hospital Barrack, or Convalescent Ward Building, at Great Walter Reed General Hospital, Washington, D. C., a number of which were erected.

into regular hospitals for peace-time requirements when the War Department has no further use for them and will therefore serve the nation for a long time to come. The greatest measure of satisfaction was given by these structures. There was no shrinkage of walls to let in drafts of cold air, which could not be avoided where the frame barracks type buildings were built of green lumber, the only kind that was available. The comfort that hollow tile building afforded both patients and hospital staff of nurses and medical officers was truly a source of enjoyment to any who had experience on hospital service in some of the camps where the necessary rapid construction and green lumber made it practically impossible to obtain a tight building, regardless of precautions taken. A little extra fresh air may not be a detriment to a healthy "doughboy" after an active day's exercise, but it is undoubtedly a detriment to a sick one in bed with pneumonia, where susceptibility to drafts is a serious matter and of no small consequence to those in charge.

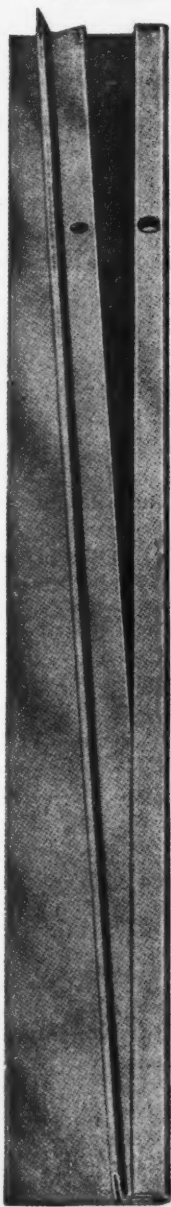
(Continued to page 150.)



Fig. 8. Another View of the Charleston Port Terminal, Showing the Freight Receiving Platform. Note how the building is divided at intervals by fire walls which extend above the roof.

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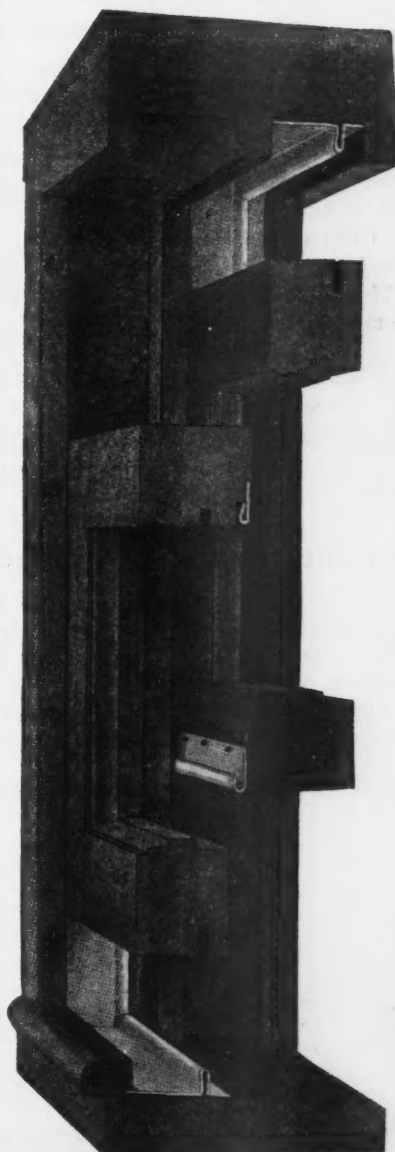
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# CORRESPONDENCE



## Questions Answered and Ideas Exchanged.

Our Readers are Requested and Urged to Make Free Use of These Columns for the Discussion of all Questions of Interest to Carpenters and Builders

### Would Like a Collection of Woods

To the Editor:

Mt. Ayr, Iowa.

I am writing for a little information. Can you tell me where I can get an assortment of woods? I want a block of each kind of wood native to the United States that I can get. The blocks to be about  $\frac{1}{2}$  by 1 by 2 inches. This will oblige me very much.

J. B. WILLEY.

*Answer*—In time past the AMERICAN BUILDER family has had an interesting time exchanging samples of wood that are native to one section of the country and not to another. Undoubtedly the family will help out Mr. Willey by exchanging with him.

THE EDITOR.

### Wants Design for Massive Buffet

To the Editor:

Bartow, Fla.

I wish to procure plans and details of a buffet. A friend of mine has a quantity of red cedar which he wishes to have made into a sideboard or a buffet. He wishes it made about eight feet wide, something large and massive. If you can furnish me with a plan and detail something in a mission or

having straight lines, as I have no machinery to use in the making, I would appreciate it very much as a subscriber and an admirer of the AMERICAN BUILDER.

J. M. SPEECE.

### Concrete and Hollow Tile Corn Crib Floor

To the Editor:

Everest, Kan.

I have a double corn crib with a driveway thru it to build. The customer wants a concrete floor with hollow tile for air space, so the floor won't be damp. How is the best way to place the tile and how much concrete should be over the tile? Also how is the best way to anchor the crib to the floor? I have built some of these cribs with all cement floors and made the floors flat. I have placed bolts in the cement to bolt the sills down, but the customer thinks the sill might rot out too soon. I would like to know if anyone has a better way.

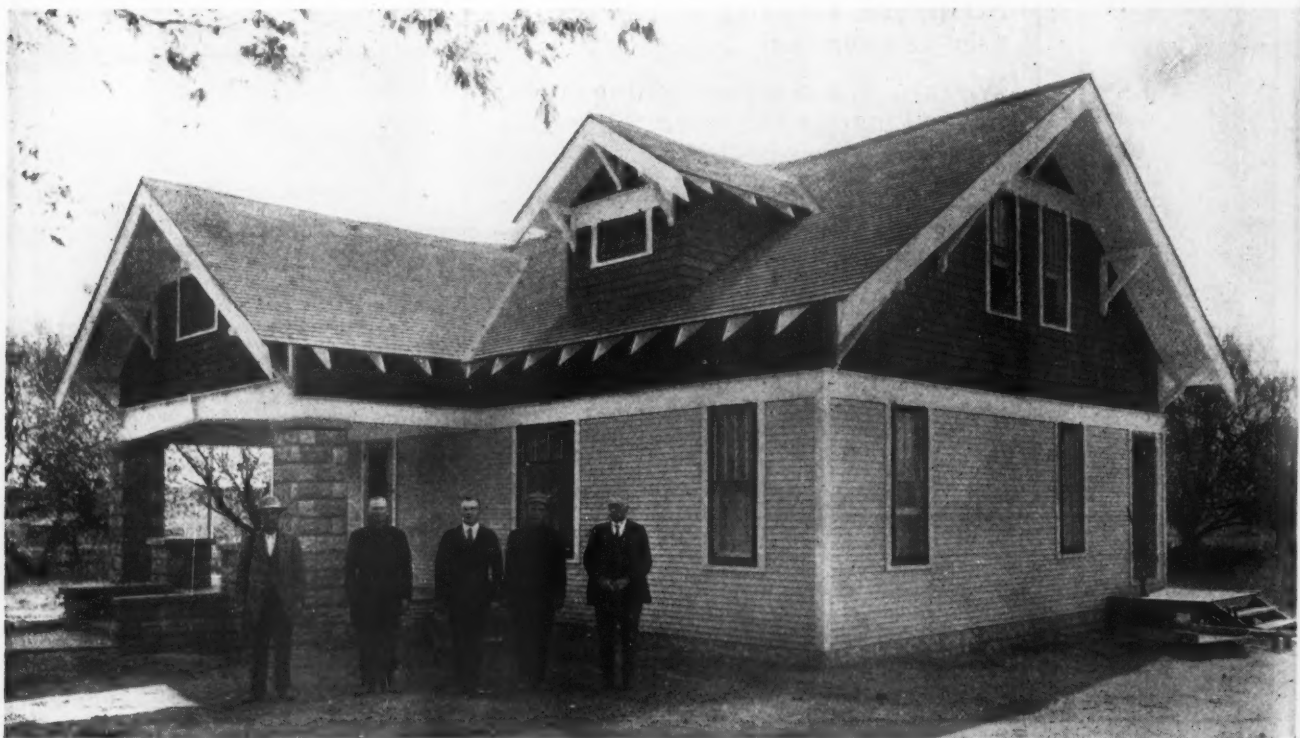
C. H. WHEELER.

### Gothic Roofs Are Interesting Problems

To the Editor:

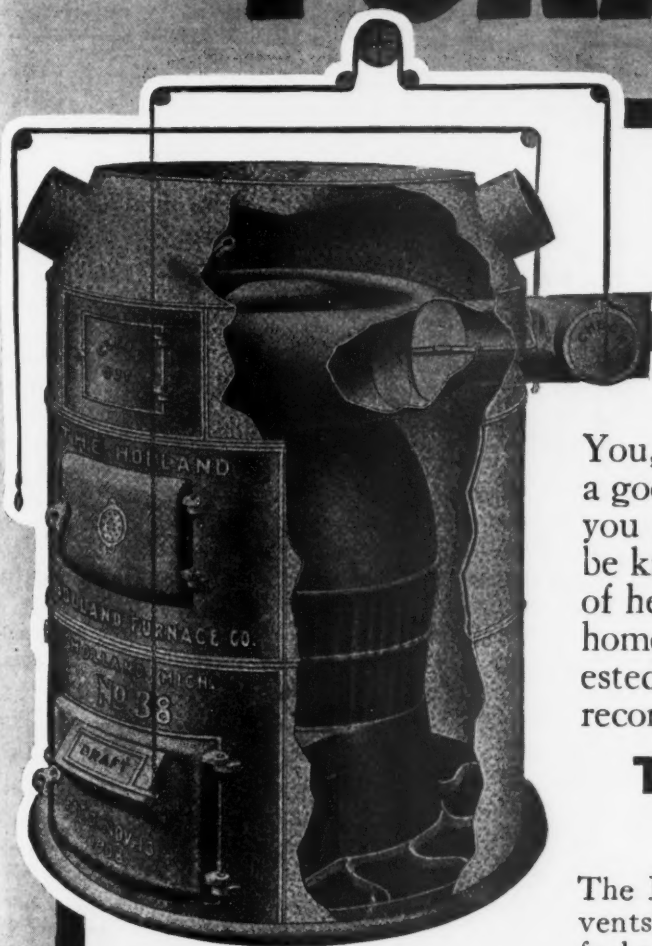
Deweese, Neb.

I always enjoy reading the AMERICAN BUILDER, especially those articles about laying out Gothic roof rafters. I would



This Attractive Little House at Deweese, Neb., Is an Example of the Good Work Albert Werner and His Crew Do.

# HOLLAND -- FURNACES



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You, a Contractor or Builder, are a good judge of a furnace, but are you given credit for it? You will be known not only as a good judge of heating systems, but as a master home builder who is really interested in your customers, if you recommend the Holland Furnace.

### The Holland Cone Center Grate

The Holland Cone Center Grate prevents formation of clinkers, and compels fuel to roll to the walls of fire-pot. Having

ing, the hottest fire right next to the castings creates strong and even radiation.

It is worth noting, also, that this Holland pivot grate can be worked so easily that it can be shaken with one finger. It is a pleasure to operate the Holland Furnace.

We are offering Carpenters and Contractors an exceptional opportunity. It is one of the liveliest propositions in the country. Let us tell you about it NOW.

You have heard of our Chief Heating Engineer, Mr. Cherven. You will want to become acquainted with him by mail at least.

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like to see more about them, especially from the older and more experienced carpenters and builders. The sketches also are interesting and instructive. I am sending pictures of two buildings I have just finished. The crib and granary is an especially good building for farmers. This one has a cup elevator installed in it.

ALBERT T. WERNER.



### Termites or White Ants in Woodwork

To the Editor:

Great Bend, Kans.

I was called to a building recently to replace some rotten lumber. When I got there I was shown base and base blocks. I tore off one base block and on examination found it full of small, white bugs and a few large, black ones. I would very much like to know what these bugs are and how they get in the lumber. Also how to prevent them from spreading when already in a building. This is the second building I have been called to in the last few years that was suffering from the same thing. One was an oak floor and the other birch. Would be glad to hear your advice on the subject.

J. SHIVELY.

*Answer.* We have received the piece of birch taken from a building at Great Bend, Kans. We beg to state that the specimen shows the work of "white ants" or termites which are one of the most injurious insects to the woodwork of buildings. We should be very glad to have specimens of the insects, since one species of these insects in Kansas has as yet not been found injurious to the woodwork of buildings and we desire to determine whether this has similar habits to its other very destructive relative.

The only effective preventive or remedy is complete insulation of untreated woodwork of buildings from the ground. These insects live in the ground and must maintain contact with it to obtain the moisture necessary to their existence. In military parlance: When once this contact with their base—moisture supply—in the earth is cut off, the vanguard, no matter how numerous, in the damaged wood will soon dry up and die.

Woodwork can be protected from termite attack by using stone, brick or concrete foundations, concrete lower flooring, or by impregnating foundation timbers with coal tar creosote. A thoro examination should be made of the foundation timbers of the house and they must be removed from any contact with the ground.

Another very serious enemy to the woodwork of buildings is the so-called powder post beetles which attack the sapwood of seasoned hardwoods, especially oak flooring. In case of damage to flooring in buildings, we advise that it be examined and the damaged boards rubbed with a rag saturated with kerosene oil. Care should be taken not to use kerosene near a fire or stove. Several applications of the oil may be necessary. These insects attack only seasoned sapwood of hardwoods; by using heartwood of conifers or softwoods all damage can be avoided. Hence, if the treatment with oil is not effective, replace the damaged flooring.

We shall be very glad to have you publish any of this information in the AMERICAN BUILDER.

A. D. HOPKINS,

Forest Entomologist, U. S. Department of Agriculture.



### Who Can Help on This Waterproofing Problem?

To the Editor:

Ottawa, Ill.

Some time ago I built a concrete pit in a low basement to provide a place of sufficient height for a hot-air furnace. The house is located on low ground, and drainage for basement is not possible. Altho a well-advertised substance for waterproofing was used in the concrete, and the construction is monolithic, water enters directly thru the walls and floor. Pit is about 5 by 8 ft., 30 inches deep. Walls and floor are 6 inches thick.

I want to find some way that will make this pit absolutely water-proof; something that will keep the water out.

Any information regarding some substance or method that will bring about this result will be thankfully received.

Have the readers of the AMERICAN BUILDER any suggestions? READER.



### Problem in Painting Cement Walls

To the Editor: Ancon, Canal Zone.

I have been reading the AMERICAN BUILDER for a long time, and have benefited by it very much. I saw in one of your issues three or four months ago an article by Henry Pittier in regard to purple nazarene wood that grows here in Panama. I am going to send you a sample of this beautiful wood. I have had considerable experience working with it. I wish you to have it in your office so you can see what it looks like.

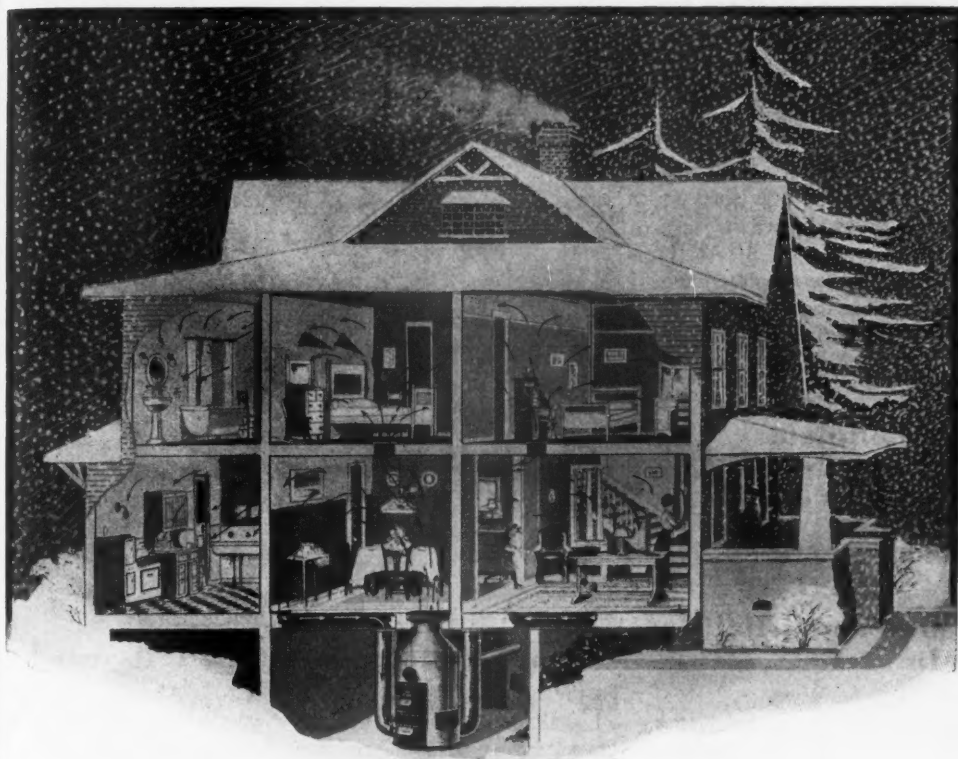
Now I wish to ask for some advice about painting. I am in charge of a large hospital of reinforced concrete, with inside walls, or partitions, of block. The building is screened in with verandas all around it. The walls were given a steel trowel finish, and after three months sulphate of lead applied. Five days afterward a wall sealer was put on, and three days later a coat of shellac. Then came two coats of lead paint and a coat of enamel.

After about six months this paint be-



Here Is a Fine Corn Crib and Granary Erected by Albert Werner at Deweese, Neb. Mr. Werner and His Crew Are Shown in the Foreground.





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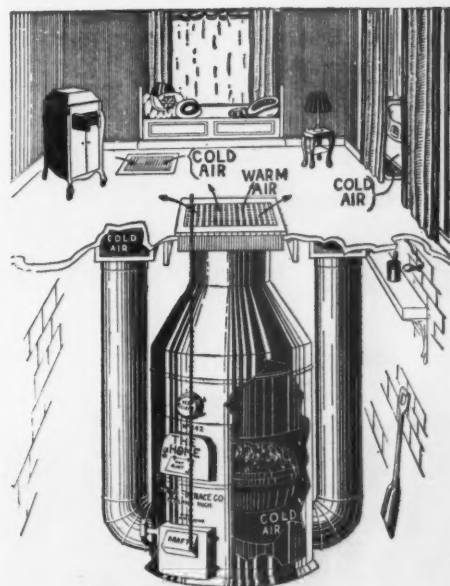
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Our literature will explain the Home features such as: Anti-clinker Grates—Self-Indicating Shaking Device—the Home Automatic Humidifier, and other advantages that make HOME Furnaces more desirable.

gan to spot and peel off. I have burned off all the paint in one section and find the walls still damp. These buildings are two stories high and the walls in the upper story are the worst.

Does capillary action draw the moisture up, or was the moisture due to the fact the top floor was finished last and was not allowed sufficient time to dry? The ceilings that are of metal lath and plaster are O. K. The block walls are much better than the poured walls. The latter are finished on the outside with cement wash, but the inside walls are the ones that peel.

What would you advise? I believe they were painted too soon, but the mistake was made and as I am the general foreman of maintenance I am painting them again the same way, but would like your advice.

KARL P. CURTIS.

### Wants a Glue for Celluloid

To the Editor:

Fort Baker, Cal.

What will stick or glue celluloid to wood or celluloid to celluloid?

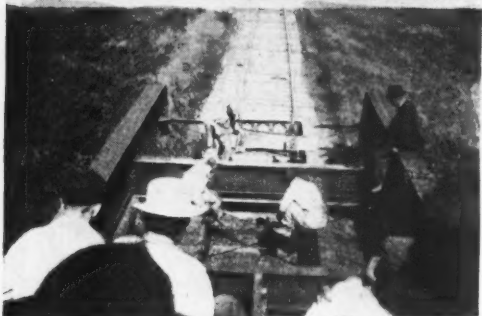
HARRY C. MICHAEL,  
11th Co., C. R. C. S. F.

### Moved a Steel Bridge Mile and a Half in Seventeen Minutes

To the Editor:

Wymore, Neb.

As long as I am able to read I expect to take the AMERICAN BUILDER, so I am sending you a check for two more years. I also send you three pictures showing a bridge I moved one and a half miles to a new location. I slid it on the railroad tracks. It took 17 minutes to move it that distance. Now I sure love to read the Correspondence Department and the articles by the different carpenters. I am a carpenter of the old school and like to keep up to date



Movie of F. Hutson's Bridge Moving Job. The Top Picture Shows the Bridge Being Placed on the Railroad Tracks; the Center Picture Shows It Being Taken to Its Destination, and the Bottom Picture Shows the Bridge in Place. The Bridge Was Moved a Mile and a Half in Seventeen Minutes.

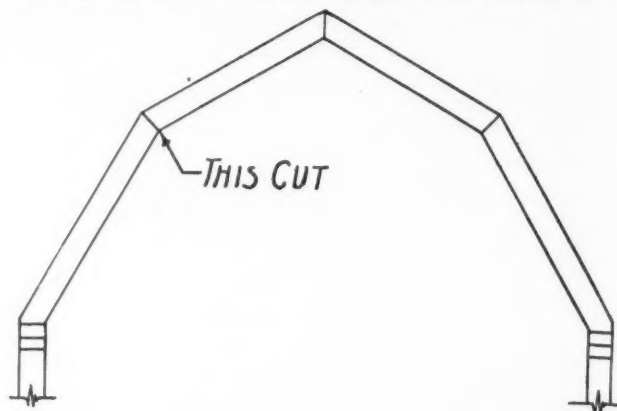
by reading your great AMERICAN BUILDER.

F. HUTSON.

### One for the Steel Square Boys

To the Editor:

Will you please tell me how to get the cut shown in the



accompanying drawing with the steel square for different pitches?  
A SUBSCRIBER.

### Wants to Reproduce Small Drawings

To the Editor:

Aberdeen, Wash.

I shall be very much obliged if you will give me thru the AMERICAN BUILDER information about the easiest method of reproducing a small drawing. It happens very often that I find small sketches without dimensions of which I would like to make larger working drawings. For example: A floor plan, a kitchen cabinet, or some other piece of built-in furniture. I have been a constant reader of the AMERICAN BUILDER for years and have found it very helpful.

CHRIS. PEDERSEN.

### What Are "Fox Wedges"?

To the Editor:

Alexandria, Va.

Kindly describe the term "fox wedges." What would you call two wedges driven from opposite directions, such as might be used under a "needle" in raising girders and the like?

R. G. OWEN.

### Can Anyone Supply This Information

To the Editor:

Hemet, Calif.

I am a charter member of the AMERICAN BUILDER family and do so much enjoy this great magazine and the way the brother carpenters help each other out in the knotty problems that arise. I have a problem entirely different from the ones generally seen in these columns, but I believe that the members of our great carpenter family will help me out. I am anxious to learn about federated churches; where they are located and the denominations interested; how they are arranged, and if they are successful or not. Will the brothers knowing of such please write? I will fully appreciate it. Wishing you and your family continued success.

W. H. BRYANT.

### Formula for Aquarium Cement

To the Editor:

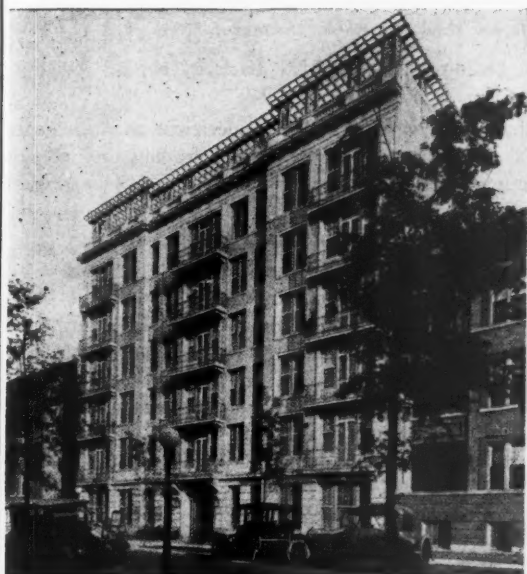
East St. Louis, Ill.

I am enclosing herewith formula for aquarium cement, which John De Vries asks for in the May issue:

Aquarium cement used in Zoological Gardens, London: One part by measure of litharge, one of plaster of paris, one gill dry white sand and one-third gill of finely powdered resin. Sift and keep corked until required for use, when

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in clear, condensed form everything that you can possibly want or need of apartment hotels.

It contains photographs of fifty modern apartment hotels in different parts of the United States. It gives a typical floor plan of each building shown.

It explains the selection of location: necessary service, and rentals. And, in short, gives you all the information there is to know so that you can authoritatively answer any questions your clients may ask.

This invaluable volume should be added to your list of important building books. It is de luxe bound in three colors, printed on beautiful enamel stock.

The price is but \$5 and we will positively give you

**Your Money Back**  
without question if the book does not satisfy!

Here's what the big firm of  
**S. W. Straus & Co.** say about it:

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(Incorporated)

ESTABLISHED 1882

INVESTMENT BONDS

CHICAGO

Mr. Robert C. Cash, Publisher  
729 Continental Bank Bldg., Chicago, Ill.

Dear Sir:—

Your book on modern apartment hotels meets an increasing demand for such a reference work. This type of building has been very successful, and to date no data has been collected in connection with the design, arrangement and planning of such buildings.

Any investor in real estate, any architect who is commissioned to design such a building and any real estate man or builder who desires to promote such a proposition, should, in my opinion, have a copy of this book in order to know these buildings, representative of this type.

We are interested in knowing that such a publication will be distributed. These buildings will fulfill a real demand in practically every large city of the country.

We assure you of active and full co-operation, and we highly approve of your conception of the character and contents of this book. If we can be of any further assistance, do not hesitate to call on us.

Very truly yours,

S. W. STRAUS & CO.

(Signed) Thomas D. Collins.

Mail  
This  
Coupon  
Today

### ROBERT CARROLL CASH, Pub.

729 Continental & Commercial National Bank Building, Chicago, Ill.

Send me your book on Apartment Hotels, which includes pictures and plans of buildings by the country's most successful architects. I am enclosing \$5—the full price. But if the book does not please me I will return it and you will give me my money back.

Name.....

Street.....

City..... State.....



it is to be made into a putty by mixing boiled linseed oil and a little patent dryer added. Never use after it has been mixed with the oil over fifteen hours. This can be used for marine as well as fresh water aquaria, as it resists action of salt water. The tank can be used immediately, but it is best to give it three or four hours to dry.

T. J. PINKERTON.

### A Bungalow to Be Proud of

To the Editor: Lexington, Neb.

I am enclosing photo of the Guy Stuart bungalow which I designed and built last summer. FRED W. KOCH.



Fine Bungalow Built by Fred W. Koch, Lexington, Neb.

### Is Building a Three-story Gothic Roof Barn

To the Editor: Fort Lapwai, Idaho.

I am building a three-story barn with a Gothic roof and want a little advice. The walls of the first story, eight feet high, are of concrete, with a concrete floor for cattle. I am using 12-foot studding on the second floor. This floor is eight feet high for a horse stable. On this floor I laid 2 by 12 joists bridged six times in a width of 42 feet. This is lined with 1 by 8 common sheathing, surfaced on one side, and on it is laid tar paper. On this I put four inches of concrete, with expansion strips every six feet, and filled the spaces with asphaltum. Let me know if this is good construction.

JAMES L. SMITH.

### Wants Information on Flour Mill Construction

To the Editor: Eugene, Ore.

Can you give me any information in regard to flour mill spouting and hopper building?

EARL M. DREW.

### Here Are Some Good Tips

To the Editor: Danville, Pa.

To make a good furniture polish take equal parts of turpentine, cider vinegar and linseed oil. Mix together well and apply.

To paint window sash and glazing, first fit the sashes in their respective frames. Then apply two heavy coats of paint. Let the bottoms and edges of the bars be painted as well as the sides. The glass should be set before a heavy coat of white lead is applied to that part of the base where the putty comes in contact with the wood.

Putty that is kept for sale is sometimes miserable stuff. The way to make good putty is to secure a few pounds of whiting, wet with linseed oil, boiled or raw, and knead it as you would bread dough. Boiled oil will make harder putty than raw oil. Putty can be colored by mixing paint of the desired color. To keep putty from drying, roll in oiled paper, pack in a tin pail and cover with oil.

JAMES J. WALLINER.

### A Letter Which Makes the Editor Feel That His Work is Worth While

To the Editor: DeWitt, Ark.

Can you give me any information which will help me in

starting in business for myself? Lack of capital is what I consider the main handicap. Is it?

I have had five years' practical experience as a carpenter, but none as a contractor. Hitherto I have had no incentive to be anything more than a good workman and have shunned foremanships and contracts because of the worry and responsibility which go hand in hand with those positions.

I observed a paragraph in the AMERICAN BUILDER which seems to point the way to something better. I have bought your magazine at news stands for the last six months, and my ambition to be something better is here and with me at last. Kindly advise me if you can assist as to ways and means.

R. LEONIDAS PAINE.

### System for Figuring Costs and Amount of Contract

To the Editor:

Here is the way we figure contracts and find that the lists given prevent "forgetments." The larger list is used in figuring cottages and bungalows. Here are the things that should be figured:

#### Figuring Memorandum

Plan.	
Permit.	
Water tap.	
Labor.	
Clearing, excavating, basement, cesspool.	
Foundation.	
Excavating	Sand, gravel
Forms	Cement.
Lumber.	
Carpentry.	
Labor, lime, cement, mortar, sand.	
Plumbing.	
Labor, material, fixtures, cesspool, water line, city tap, sewer.	
Plastering.	
Labor, plaster, cement, sand.	
Painting.	
Labor, material.	
Wiring.	
Labor, material, fixtures.	
Roofing.	
Common labor.	
Foundation, carpenter help, remove forms, cesspool, basement, cleaning up, filling, etc.	
Cement work.	
Labor, cement, sand, gravel, rock, sills, lintels, copings, pier caps.	
Anchor bolts.	
Partition bolts.	
Metal lath-vents, cooler shelves.	
Hardware.	
Thimbles.	
Garage.	
Basement.	
Excavating, cement floor and steps, plastering, door and hardware, etc.	

The sub-bids and totals are all entered up on a separate slip. The columns are materials and work, date, who made the bid, the amount and the total, which includes my percentages, if I add any. Then total the last columns and the

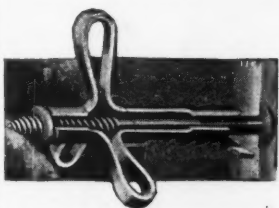


Self-Riveting

Self-Adjusting

**HOLD IN ANY WALL!****ANKYRA ANKOR BOLTS**

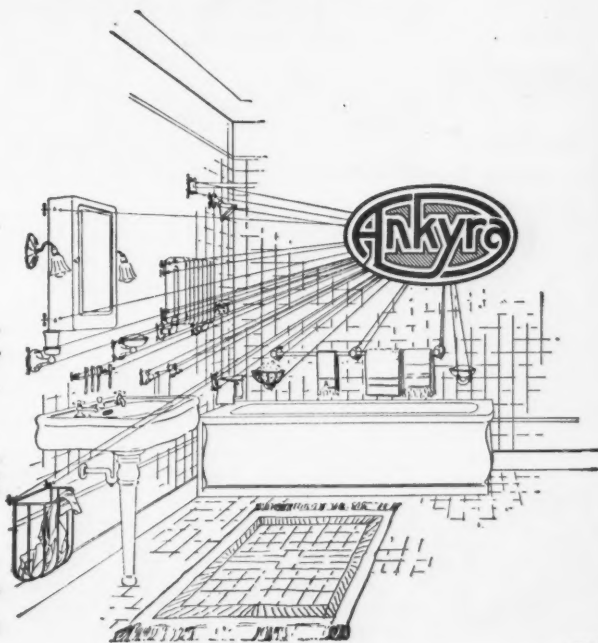
Drill the hole in the wall.  
 Put the Ankyra on your collapsing tool.  
 Insert in the hole.  
 Pull the lever.  
 Remove collapsing tool.  
 The Ankyra is riveted in place.  
 Fasten your fixture with a suitable wood screw.  
 The job is done.  
 Just as simple as it sounds.



Collapsed in Hollow Wall.

Fixtures, grounds or trim fastened with **Ankyra Ankor Bolts** will never come loose. They hold in any wall.

Get the one dollar Trial Package of 25 No. 8 Ankyras, one collapsing tool (an addition to your tool kit) and complete instructions.



1818

**ANKYRA MANUFACTURING CO.**

151 Berkley St. Wayne Junction Philadelphia

**OUR FREE PLANS**

should be in the hands of every contractor and every farmer who is expecting to build a new crib or granary.

They are money-makers for the contractor, easy to understand and show how to get the greatest capacity with the least expense, by installing Meadows Stationary Inside Cup Elevators.

**THE MEADOWS**

is convenient and economical. It elevates small grain as well as ear corn. It is easy to install.

**Don't Delay**

writing for our plans and catalogs, which tell you all about our outfits and their money saving application.

**MEADOWS  
MFG. CO.  
PONTIAC, ILL.**

*Meadows*  
TRADE MARK REGISTERED



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

amount of the bid is secured. This is how I make out the sub-contract figures:

Name.	Brick, tile.
Material.	Plastering.
Work.	Painting.
Date.	Wiring.
Who.	Roofing.
Amount.	Common labor.
Total.	Garage.
Plan.	Hardware.
Permit.	Anchors.
Water tap.	Partition bolts.
Foundation.	Metal lath.
Cement work.	Thimbles.
Lumber.	Floor scraping.
Carpentry.	Basement.

H. J. BLACKLIDGE.

### Tank Tests Tile

To the Editor:

Chicago, Ill.

We enclose herewith photograph which friend Straight, of Adel, Ia., has given us.

This tank was used in connection with the Victory Loan at Adel and I don't know that Straight had any special idea in



Victory Loan Tank at Adel, Iowa, "Over the Top" of the Piles of Tile.

mind in pulling off the tile demonstration other than the spectacular side of it. Mr. Straight feels that "Irontile" is well named. Said that there wasn't a block broken in the test.

THE PERMANENT BUILDINGS SOCIETY.  
C. L. RORICK, Manager.

### Hollow Building Tile Helps to Win the War

(Continued from page 140.)

One of the many hollow tile buildings for the great War Department hospital at Denver is shown by Figure 7, a typical ward or barracks building for the Walter Reed General Hospital at Washington, D. C. Another of the large and important base hospitals is shown by Figure 9. The walls of most of the buildings at both of these hospitals, each of which consists of a large number of buildings, were constructed of hollow building tile. In most of the large base and camp hospitals that were built of frame construction, hollow tile fire walls were used, dividing the different sections or wings so as to isolate a fire to the section in which it occurred and prevent its rapid spread thru the entire structure before the patients could be removed and means taken to extinguish it.

The Navy Departments were also extensive users of hollow building tile construction in their hospital buildings, where very satisfactory results were obtained from the use of this material; nor was the use

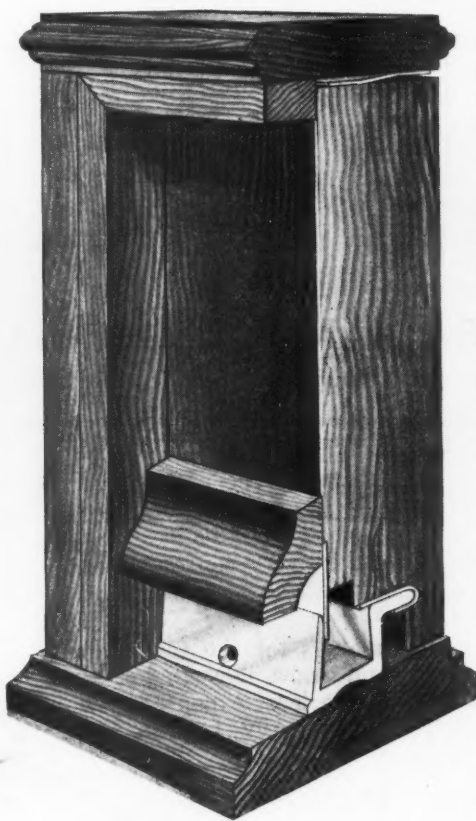
of hollow tile by this department confined to hospitals, as many other structures, machine shops, storage buildings, powder magazines and various other buildings were built of it at the different navy yards, naval air stations and operating bases. The Navy Department, however, does not permit the publication of photographs of these buildings and I am therefore unable to deal in detail with or to illustrate the use of hollow tile construction by the Navy Department.

### A Weather-tight, Inswinging Casement Window

A casement window that swings in has many good points that recommend it to home owners and the owners of other

buildings, in which there is need of ventilation from windows and in which it is necessary to be able to clean and operate them easily. The only drawback to this type of window has been that it was difficult to so frame them that they would be weather-tight.

Herewith is illustrated a casement window that swings in and that is claimed to be so constructed that it will withstand the most severe weather. Rain, blown against the window by a heavy wind, will not penetrate it, and at



Detail of Weather-Proof Inswinging Casement Window.

the same time it is operated easily.

As will be seen, the feature of the window that makes it weather-proof is the overhanging drip moulding and the heavy metal weatherstrip that protects the bottom weatherstrip. The metal weatherstrip is attached to the sash under the drip moulding and laps over a metal splash moulding with "weep holes," the latter being fastened to the sill. This provides a fortification thru which the strongest wind cannot force the water.

This is a simple, self-adjustable equipment and cannot interfere with the proper operation of the sash.

### It Would Seem So

Miss Elderby—"Do you really think that women propose?"

Oldbach—"If they don't there are many marriages I cannot account for."





## A SUPERIOR BUILDING MATERIAL

### "WESTERN FACE BRICK"

Is made in many beautiful colors and textures to suit the most fastidious taste.

The home built of this brick is always possessed of individuality; it is proof against fire, needs no painting or upkeep, and will outlast buildings of short-lived combustible material.

### "WESTERN HOLLOW TILE"

Has no equal as farm and industrial building material. It is light, fireproof, warm, and comparatively reasonable in price.

This Tile can be used to advantage in a thousand ways—ask your dealer.

*If your dealer does not carry the "WESTERN LINE" tell him to write for samples and prices.*

**WESTERN BRICK COMPANY, Danville, Illinois**

## Free—A New Book for Those Who Plan and Build

### Partial List of Contents

138 Photographic Illustrations  
11 Pages of Details  
10 Complete Specifications  
Numerous Tables

Size of Book 8½" x 11"—64 pages

Arched floors  
Ceilings  
Conduits  
Fences  
Finishes for stucco  
Floors  
Furring  
Garages  
Overcoating  
Partitions  
Roofs  
Safe loads on slabs  
Stucco residences  
Tanks  
Walls and sidings

**METAL LATH**  
*Because Metal Lasts*



"Magnificent" — "invaluable" — "most useful" — "finest of trade literature" — are a few of the comments on the new Hy-Rib and Metal Lath Book just off the press.

Ordinarily our printed literature is not featured in our advertisements, which we prefer to devote to the merits of our products and service. But this new book is so exceptional in every way that we would be neglecting a duty to our friends if we did not bring it prominently to their attention.

The new Hy-Rib Book will be sent free to responsible persons, on return of attached coupon or request on letterhead. If you care to give us information about contemplated building, we would appreciate it, but at any rate write for book. Address Hy-Rib and Lath Dept.

Practically everything on the application and use of Hy-Rib and Metal Lath products is included. Hundreds of photograph illustrations — page after page of large-scale details — complete specifications on many subjects — tables for designing — in short, just the book needed by the architect, engineer, contractor, plasterer or owner. A book of large size, 64 pages in all, convenient to use and attractively printed and bound.

**TRUSCON STEEL COMPANY**  
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Reinforcing Steel, Metal Lath, Steel Windows, Steel Buildings, Pressed Steel, Cement Tile, Etc.

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## NEWS OF THE FIELD

### J. H. Wilson Joins Berger Mfg. Co.

The Berger Manufacturing Co., Canton, O., has announced that J. H. Wilson has been appointed works manager for the company. Mr. Wilson formerly was associated with the LaBelle Iron Works, the Gary, Ind., plant of the U. S. Steel Corporation and the American Rolling Mill Co.

### W. E. Caldwell to Build Saw Mill

The W. E. Caldwell Co., tank manufacturers, of Louisville, Ky., and J. B. Crawford, an experienced saw mill man, will build a 30,000 to 35,000 foot-cut band saw mill in St. Landry Parish, La., where they own large tracts of cypress, ash, oak and gum timber.

### Sager Lock Co. Buys Shogren Weatherstrip Co. Assets

The Sager Lock Co., North Chicago, Ill., has purchased the physical assets, patents and good will of the Shogren Weatherstrip Co., which has been dissolved, and all the latter company's machinery and equipment has been moved to the Sager factory at North Chicago. C. A. Shogren, formerly president of the Shogren company, will be in charge of the weatherstrip department of the Sager company. The Sager Lock Co. has been a manufacturer of builders' hardware for more than 30 years. It has a modern factory and a large organization and carries a large stock of weatherstrip materials. This company also is manufacturing a weather-proof inswinging casement window, frame, sash and hardware.

### Employees of Richards Wilcox Mfg. Co. Have Daily "Sings"

When the shop employees and office force at the Richards-Wilcox Manufacturing Co., Aurora, Ill., finish their lunch each noon, they gather round the piano in one of the shops and engage in a "sing" until the whistle blows. Popular and old familiar songs are sung. At one of the recent noonday meetings the Oriole Girls' Chorus, from Augustana College, gave an entertainment for the employees. The illus-



A Noon-Time Gathering of the Employees of the Richards-Wilcox Manufacturing Co., Aurora, Ill. All Join in Singing Popular and Patriotic Airs, which Promotes a "Family" Feeling.

tration shows the girls' chorus at the left and the employees. The concert was lengthened because of encores and the boss instructed the operator of the shop whistle to stay his hand until the concert was finished.

### Portland Cement Association Has New Farm Bureau

In recognition of the broadening opportunities for promotion in the field of cement products and farm uses of concrete, the Portland Cement Association has recently organized, at its headquarters at Chicago, the Farm and Cement Products Bureau. The new department absorbs several former bureaus and the facilities thus made available are to be concentrated on a general campaign for cement products and the farm and small general uses of concrete thruout the country. A. J. R. Curtis, who has been in charge of the educational and farm promotion work of the association for the past few years, is manager of the new bureau.

### Ross Hunter Joins Oshkosh Mfg. Co. Force

The Oshkosh Manufacturing Co., Oshkosh, Wis., announce that Ross Hunter has been appointed eastern sales manager, with offices at 154 West 38th street, New York City. Mr. Hunter is well known in the construction machinery business. He has been successively salesman, distributor, assistant sales manager and sales manager, and is not only familiar with every branch of the industry, but is personally known to hundreds of distributors and contractors. Besides the equipment the Oshkosh company manufactures, a full line of repair parts will be carried at the New York office.



Ross Hunter.

### Sargent & Co. Elect Officers

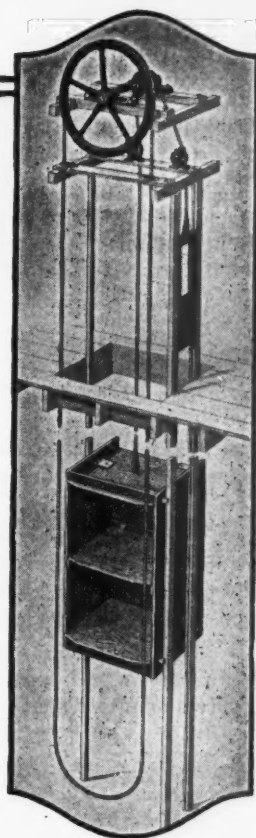
At the annual meeting of Sargent & Co., hardware manufacturers, New Haven, Conn., the following were re-elected as directors of the company: H. B. Sargent, G. L. Sargent, G. F. Wiefert, Wilfred Lewis, John Sargent, J. D. Sargent, Bruce Fenn, E. R. Sargent and Ziegler Sargent.

Subsequently at a meeting of the board of directors, the following officers were elected: H. B. Sargent, president; G. L. Sargent, vice-president; Ziegler Sargent, treasurer; Murray Sargent, secretary, and James J. Markham, auditor.

### Aberthaw Co. Opens Buffalo Office

The Aberthaw Construction Co., of Boston, Mass., has recently opened a permanent office in Buffalo, N. Y., at 918 Ellicott Square. As the builders of the turbine plant of the Bethlehem Shipbuilding Corporation, at Buffalo, and other work, the company has for some time been represented in this city and this fact is one of the reasons for the opening of a permanent office. H. C. Hedding, who has been with the Aberthaw organization for some time, will be in charge.

# SEDGWICK



## "Make-Shifts" or "Make-Goods"?

Sedgwick Hand Power Elevators and Dumbwaiters are first in quality and sure-service performance. Yet they are least in cost figured on satisfactory service.

They are not in real competition with cheap "make-shifts". Reason? Because of the superiority of the Sedgwick outfits in design, material and workmanship.

Motto: "Permanent customers rather than one-time customers."

We offer you a good margin and to your customers a five-year guarantee. Then? Write for catalogue and special plan of co-operation in developing business for Builders.

## SEDGWICK MACHINE WORKS

*Specialists for Twenty-Five Years*

154 West 15th Street

NEW YORK



## Stanley Skew Cutter, Filletster and Rabbet Plane

This plane has a  $1\frac{3}{4}$  inch skew cutter and adjustable spurs. The fence and depth gauge can be attached to either side; the plane is therefore suitable for right or left hand work. The adjustable fence slides under the bottom. By removing the arms and fence a Skew Cutter Rabbet Plane is obtained. Catalogue No. 34 more fully describes this tool as well as many others of interest to those engaged in woodworking. *May we send you a copy?*

**STANLEY RULE & LEVEL CO.**  
NEW BRITAIN, CONN. U.S.A.



### C. Brainerd Fox Dies

C. Brainerd Fox, president of M. Ewing Fox Co., manufacturers of calcimines and waterpaints, died Saturday, May 24, after being ill with pneumonia for five days.

Mr. Fox was 45 years old, and the eldest son of M. Ewing Fox. He was born in New York City and grew up with the business with which he was connected, becoming its president in 1917.

He was much interested in charitable and civic affairs, an active member of the Presbyterian church, a vice-president of the Bronx division of the Society for the Prevention of Cruelty to Children, and a member of the City committee of the Citizens' Union.

He was a man of large and generous impulses, sterling character, and high ideals.



### Changes in the Stark Rolling Mill Organization

George W. Scott has been appointed district manager for the Chicago territory by the Stark Rolling Mill Co., Canton, O. Mr. Scott has had a wide experience in the steel industry, having formerly been the Chicago representative of the Pittsburgh Steel Co. Thomas F. Murphy has been appointed the company's district manager for the Canton territory. Mr. Murphy formerly was connected with the American Sheet & Tin Plate Co.



### Joseph Dixon Crucible Co. Elects Officers

The stockholders of the Joseph Dixon Crucible Co. held their annual and regular meetings on Monday, April 21. The following directors and officers were elected:

Directors: George T. Smith, William G. Bumsted, J. H. Schermerhorn, George E. Long, Edward L. Young, Harry Dailey, Robt. E. Jennings. Officers: George T. Smith, president; George E. Long, vice-president; J. H. Schermerhorn, vice-president; Harry Dailey, secretary; William Koester, treasurer; Albert Norris, assistant secretary and assistant treasurer.

The American Graphite Co., incorporated under the laws of the State of New York, is a subsidiary of the Joseph Dixon Crucible Co., and its annual election was held on the same day as that of the Joseph Dixon Crucible Co., and resulted in the election of the following officers: George T. Smith, president; George E. Long, vice-president; J. H. Schermerhorn, treasurer; Harry Dailey, secretary; William Koester, assistant secretary and assistant treasurer.

The directorate is the same as that of the Joseph Dixon Crucible Co.



### It's the Waterloo Construction Machinery Co. Now

The Waterloo Cement Machinery Corporation, Waterloo, Ia., has announced that its name has been changed to the Waterloo Construction Machinery Co. The company has added from time to time to its concrete mixers, backfillers, pumps, hoists and air compressors and for that reason decided that a name more descriptive of its output should be used.



### Morgan Company Urges Use of Stock Sizes and Patterns

The Morgan Sash & Door Co., Chicago, has issued a bulletin entitled "Timely, Wholesome Advice," which appears to be just what its title indicates. The bulletin says:

"We are face to face with unusual conditions. They affect the whole building industry—manufacturers, dealers, contractors and owners alike. A menace of serious consequences is apparent.

"Building has begun in real earnest. All factories are short-handed and orders are accumulating. Contractors and builders cannot wait for materials—delay involves loss of rentals and deprives owners of the use of their property.

"The manufacturers are doing all they can under present circumstances to facilitate production. They can't change the circumstances, but the dealers can to a large extent.

"The use of stock sizes and patterns of millwork will give relief.

"Special work is clogging factory equipment—enough time and effort to complete ten legitimate stock orders are wasted in fussing over one special job.

"It is to your advantage, therefore, as well as to your customers' and the manufacturers', for you to urge the use of stock sizes and patterns on every occasion.

"You gain in many ways by selling out of stock.

"You can handle rush jobs with efficiency and dispatch.

"You can buy stock cheaper than special work, and

"You can multiply your turn-over—every turn-over registers in your bank book.

"Tell your customers—contractors and owners—that

"Stock patterns and sizes represent the boiled-down, analyzed and classified requirements of nearly 100 per cent of all millwork buyers; that—

"Variety in design may be effected by proper, appropriate combination of stock patterns.

"By buying out of stock you give your customers quick delivery, you accelerate your own business and avoid tying up your capital in long-time book accounts. You reduce labor and equipment for keeping your base of supply—the manufacturer and wholesaler—in a position to reach maximum output and thus reduce costs to a minimum. You do yourself, your community and the entire industrial world a distinct service."



### The Concrete Floor

Concrete has largely supplanted wood as a floor material for garages, factories and mills, in that it gives a surface more easily cleaned and impervious to water. Also it has the advantage of being fireproof.

There is, however, one serious objection to this type of floor. When the floor is subjected to wear, there is a tendency toward the "dusting off" of the cement particles, and these particles floating about in the air are injurious to the health of employees and a menace to the working parts of delicate machinery.

The use of a proper protective coating, however, will readily overcome this objection. First see that the floor is perfectly dry and then apply a brush coat of concrete floor first coater. This will seal up the pores and stop the suction. Allow this coating to dry twenty-four hours and follow with two brush coats of concrete floor paint, allowing forty-eight hours for drying between coats.

If the floor is subjected to unusual wear, a final coat of good floor varnish will add materially to the appearance and durability.



### Why Bobby Ate Chicken

Mother—"Now, Bobby, was it you who picked all the white meat off this chicken.

Bobby—"Well, mother, to make a clean breast of it, I did."  
—London Tit-Bits.

## Shower and Closet Stalls

**S**LATE is becoming more and more appreciated for closets, showers, etc., and its use is rapidly increasing.

All the advantages of san-

itation, economy, durability and suitableness would fill pages, so we shall merely suggest that you employ slate in your next club, public building or factory job.



*The Structural Slate Co.  
Manufacturing Five Carloads Daily  
Pen Argyl, Pennsylvania*

## Natural Slate Blackboards



### The Complete Output Of Thirty-five Quarries

**A**DVANTAGES such as contractors *never before knew* in the slate industry are provided by such gigantic stock facilities.

In the old days contractors were often unable to get much-needed slate blackboards *when* required.

Now, however, this tremendous output is instantly available through *one* centralized channel.



**Natural Slate Blackboard Co.  
Pen Argyl, Pennsylvania**



### Lesson in Plan Reading

# FREE!

Send now for this FREE lesson which we will send to prove how quickly you can learn Plan Reading by our new, easy method. Not a penny to pay for this lesson. Just ask for it. Without a good knowledge of plans your opportunities are limited. At work you don't get the chance to study blue prints or to have their meaning explained. We make the chance for you. We place in your hands plans used on actual construction by contractors in Chicago and other cities, and you get lessons by men in charge of building work who will help you at every step and make you an expert plan reader.

## Builders' Course On Easy Payments

Our Builders' Course gets right down to the things you need to know. And you can get it on easy payments. A small first payment when you enroll—then payments monthly—so small you will never feel the cost. At least write and find out what this course really offers and how you can make more money by learning what we will teach you in a short time.

## Learn By Mail

Use your spare time at home to learn how to be a better workman, a better foreman or a better contractor. Even after you complete the course you have the privilege of consulting us when you want suggestions. We will always be ready to help you.

### Some Things We Teach

**Plan Reading** Use and meaning of all the lines. Plans and elevations. Reading dimensions. Detail drawings. Laying out work from plans. Practice in reading plans from basement to roof, etc., etc.

**Construction** Brick work, stone work, carpentry, plans and specifications. Every detail explained for residences, office buildings, factory buildings, school houses, apartment buildings, bank buildings, etc., etc.

**Estimating** Figures on every kind of building work fully explained. Labor and material. Problems worked out from plans. Practical builders' methods studied from plans and specifications of actual building of every kind.

**Arithmetic** A complete course arranged especially for builders and contractors.

**Architectural Drafting** Also other branches of drafting. Send for special catalog on these courses.

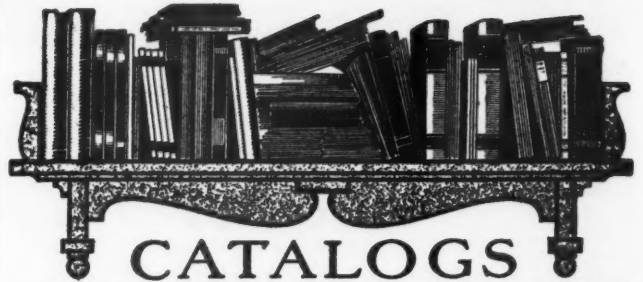
## Send the Coupon

Get this information now. Learn how to make more out of your work or out of your business by knowing more about it. All this information is free. Send for Free Lesson and this information—now. Just send request on the coupon below.

### -----Chicago Technical College-----

736 Chicago "Tech" Building Chicago, Illinois  
Without obligation on my part, send me the Free Lesson in Plan Reading, also information on your Builders' Course in Plan Reading, Estimating, etc.

Name .....  
Street .....  
City ..... State .....  
Present Occupation .....



## CATALOGS BULLETINS & BOOKS RECEIVED

The following literature, dealing with subjects of interest to builders, is now being distributed:

"Lavatories" is the title of Bulletin No. 3, issued by the Humphries Manufacturing Co., Mansfield, O. The bulletin contains eight pages and is illustrated with cuts showing the sanitary enameled iron and brass plumbing fixtures for lavatories this company manufactures.

Equipment for painting by compressed air is illustrated and described in a 40-page and cover booklet, issued by the DeVilbiss Manufacturing Co., Toledo, O. The booklet contains many illustrations and describes the various parts of the "Aeron System," which this company makes.

"Barrett Everlastic Roofings" is the title of a new 12-page booklet describing the various types of Everlastic shingles and roll roofings the Barrett Co., New York City, manufactures. Other products, such as Creonoid, a cow spray, Carbosota, a creosote oil, and Elastigum, a waterproof cement, also are described.

"The Stucco Beautiful" is the title of a 16-page booklet describing "Kragstone Stucco," issued by the Construction Materials Co., Chicago. This booklet contains a number of halftones illustrating fine homes finished with this material and gives instructions in the application of stucco.

"Equipment for Cafeterias, Lunch Rooms, Dining Rooms and Restaurants" is the title of an elaborate portfolio issued by Albert Pick & Co., Chicago. The portfolio contains 100 pages and is exceptionally well illustrated with halftone reproductions of the interiors of restaurants, etc., and shows the proper equipment and how it should be arranged and installed.

"Murphy Ironing Board and Cabinet" is the title of a 6-page folder describing a cabinet to be installed in kitchens, issued by the Murphy Door Bed Co., Chicago. The folder contains illustrations of this cabinet containing the ironing boards.

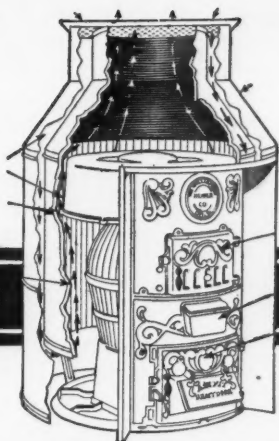
Ventilators for buildings of all kinds are described and illustrated in a 16-page and cover booklet, issued by the Merchant & Evans Co., Philadelphia, manufacturers of "Star" ventilators. Pictures of ventilated buildings, of the ventilators and details of construction are shown.

"Safe Practices" is the title of a series of bulletins issued by the National Safety Council, Chicago. One of the bulletins, No. 20, describes and illustrates how woodworking machinery and equipment can be protected, so as to insure the safety of the workmen.

"Historic Houses of Litchfield" is the title of No. 3, Vol. 5, of the White Pine Series of Architectural Monographs, published by the White Pine Bureau, St. Paul, Minn. The text was prepared by C. Matlack Price and a number of photographs of Connecticut houses provide the illustrations.

"Miscaspar—How to Use It," is the title of a 16-page booklet describing this product, manufactured by the





## This is the Year for Pipeless Profits

Carload orders already received show that this year will be the biggest one in the history of the fast-selling Williamson Guaranteed Pipeless Furnace. This means more profits for contractors who install these economical, efficient heating systems.

### Get Your Share

Our extensive farm paper campaign starts the latter part of July and will continue all through the best selling months. But already the demand is pushing our factory facilities to the utmost. Cash in on this big selling campaign by installing Williamson's.

### You Are Protected By Guarantee Bond

The Williamson Pipeless is the result of thirty years engineering experience. Its guarantee to heat a house to an average of 70 degrees temperature is backed by a million dollar company. You are protected by a furnace that is guaranteed to perform efficiently.

### We Sell The Furnace — You Get The Profits

The Williamson reputation and extensive advertising campaign sells the furnace—you simply install it and get the profits. Besides our big advertising campaign we follow up your prospects with booklets, catalogs and folders. And after the furnace is sold, our engineering department helps you install it.

*Mail the coupon today for further details.*

**The Williamson Heater Company**  
79 Fifth Street, CINCINNATI, OHIO

**The Williamson Heater Co.**

79 Fifth Street, Cincinnati, Ohio

Please send me full details regarding your plan to help me make money selling and installing the Williamson Pipeless Furnace. This request is to involve no obligation on my part.

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Address .....

Business .....

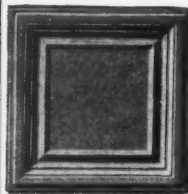
## Announcement

We have recently purchased and taken over the entire plant, stock and equipment of the Kinnear and Gager Manufacturing Company, of this city, who were pioneer manufacturers in the Metal Ceiling line, and who have been continuously manufacturing their famous Quad Lock Joint Construction for the past 37 years.

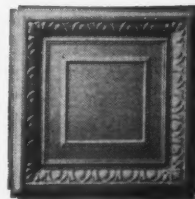
We shall continue to manufacture their entire line so that the needs of all customers may be promptly supplied.

By the acquisition of the above line in addition to our own unsurpassed Universal Lock Joint Metal Ceilings, we at once become the

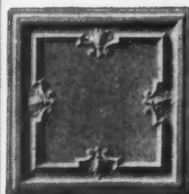
**Largest  
Manufacturers  
of  
Lock Joint  
Metal Ceilings  
in the World**



Panel No. 634  
F. O. S.

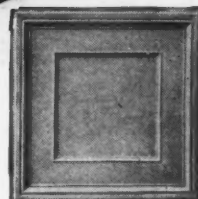


Panel No. 530  
K and G



Panel No. 934  
F. O. S.

**We are also  
Large  
Manufacturers  
of**



Panel No. 540  
K and G



Schoedinger's  
Rotary Suction  
Ventilators

AND



Schoedinger's  
Columbus Stationary  
Ventilators

An agency for these unequalled lines will be a very valuable asset to your business, and you should not delay in making your arrangements as these agencies are rapidly being taken up. Secure information concerning this proposition while there is yet time.

*Complete Catalogs of all lines on request.*

**F. O. SCHOEDINGER** SOLE MANUFACTURER  
COLUMBUS, OHIO, U. S. A.

Crown Point Spar Co., Crown Point, N. Y. The booklet is especially interesting to builders of stucco houses, as it tells how best to use this stucco dash.

**Fine garages and garage-door hardware** are shown in the new "National Garage Hardware" catalog of the National Manufacturing Co., Sterling, Ill. The catalog is illustrated with pictures of garages of different types, constructed of various materials, and floor plans accompany them. The doors and hardware these garages require also are shown. The booklet contains 32 pages and cover.

**Construction machinery**, including concrete mixers, builders' hoists, trench pumps, backfillers, are compressors and other contractors' machinery are described and illustrated in the catalog of the Waterloo Construction Machinery Co., formerly the Waterloo Cement Machinery Corporation, Waterloo, Iowa. The catalog contains 60 pages and cover.

**"The Story of the Silo"** is one of the interesting features of the booklet, entitled "The Polk System," issued by the Polk-Genung-Polk Co., manufacturers of concrete silo forms, Fort Branch, Ind. The booklet contains thirty-four pages and cover.

**Specifications for installing gas water heaters** are issued together with a descriptive circular of the Humphrey automatic gas water heaters, issued by the Humphrey Company, Kalamazoo, Mich. The specifications are in a form useful to architects and builders.

**"Boss Hoists and Elevators"** and **"Boss Mixers"** are the titles of two booklets issued by the American Cement Machine Co., Keokuk, Iowa. Both booklets are well illustrated and have attractive covers, and describe the contractors' equipment the company manufactures. Each booklet contains eight pages.

**Individual water plants** for farm and suburban homes

and other buildings are described and illustrated in an especially attractive and comprehensive catalog issued by the Deming Co., Salem, Ohio. The booklet contains forty-eight pages and cover and is illustrated with pictures showing the plants the company makes and some of the homes where they are installed.

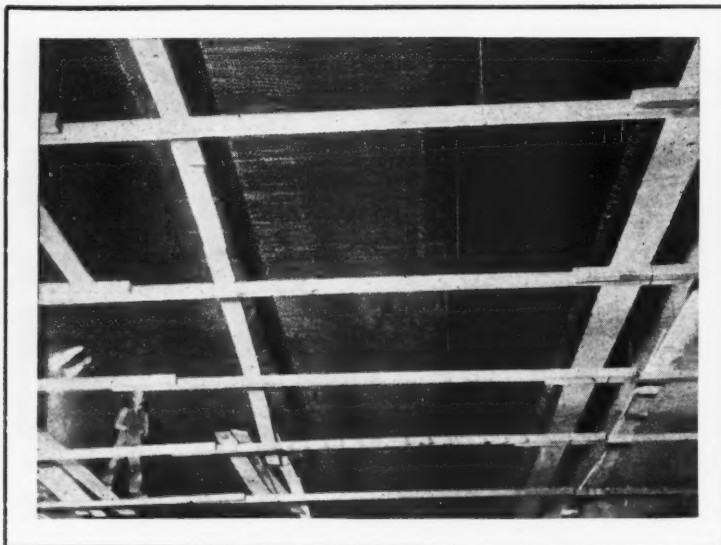
**"Data on Waterproofings, Dampproofings and Technical Paints"** is the title of a pamphlet issued by the General Fireproofing Co., Youngstown, Ohio. There are twelve pages of interesting facts on these subjects and four pages of blue prints, showing methods of concrete construction.

**"Delco-Light for Country Homes, Camps and Motor Boats"** is the title of an exceptionally attractive eight-page folder issued by the Domestic Engineering Co., Dayton, Ohio. The pages are in color and illustrate scenes made brilliant by individual electric light plants.

**"The Work's Waiting—Get Ready"** is the title of an inspiring folder for contractors, issued by the Waterloo Construction Machinery Co., Waterloo, Iowa. The folder describes the building needs of the country and urges contractors to "get busy."

**"Lights for Country Homes"** is the theme of an extraordinary booklet on individual electric light plants, issued by the Matthews Engineering Co., Sandusky, Ohio. The booklet contains forty-eight pages and cover and is illustrated with full pages in color and many homes where the Matthews plants are in use. Also there are illustrations and descriptions of the several sized plants the company makes.

**Concrete mixers for every purpose** are described and illustrated in a thirty-two-page and cover catalog issued by the Jaeger Machine Co., Columbus, Ohio. The booklet shows mixers of several different types and contains de-



## BOSTWICK "Truss Loop" METAL LATH

when seriously compared with other short lived, combustible building materials, must be at once recognized as the most conservative lath on the market.

In repeated tests it has proven its economy by a saving of from 15% to 33½% in time, material and labor.

It resists fire and weather conditions perfectly. The roof, wall or floor

built with this firm steel mesh is literally a solid wall of stone with a steel core.

In the accompanying illustration you see "TRUSS-LOOP" lath used throughout in the construction of a large Newark, New Jersey, theatre. Here the lath was used on 3'-6" centers.

Note its rigidity, and its smooth even surface; and you can easily imagine with what speed and comparative ease the job was completed.

Write Today for Our Illustrated Catalog and Building Data

**THE BOSTWICK STEEL LATH COMPANY, Niles, Ohio**

## "Cornell-Wood-Board Has Given Most Excellent Satisfaction in Every Way"

Here is first hand evidence from a live lumber dealer as to the superiority of Cornell-Wood-Board. Contractors, builders and carpenters everywhere like to specify it, because they can save time, money and labor on contract jobs.

Super-sized on both sides (patent applied for). Resists heat, cold and moisture. Cornell-Wood-Board will not crack, warp or buckle. Requires less paint or calcimine than other interior finishing materials.

**FREE**

Get samples of Cornell-Wood-Board from your local dealer or write direct to us for samples and full information.

### CORNELL WOOD PRODUCTS CO.

Dept. 107, 190 North State Street, Chicago

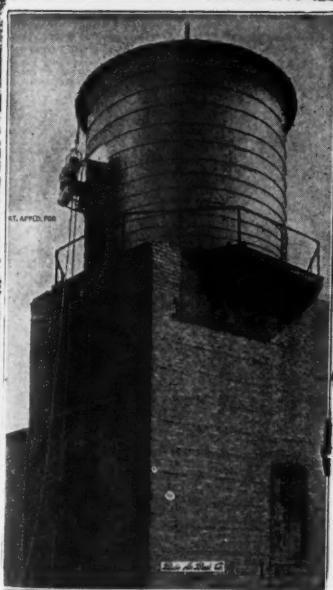
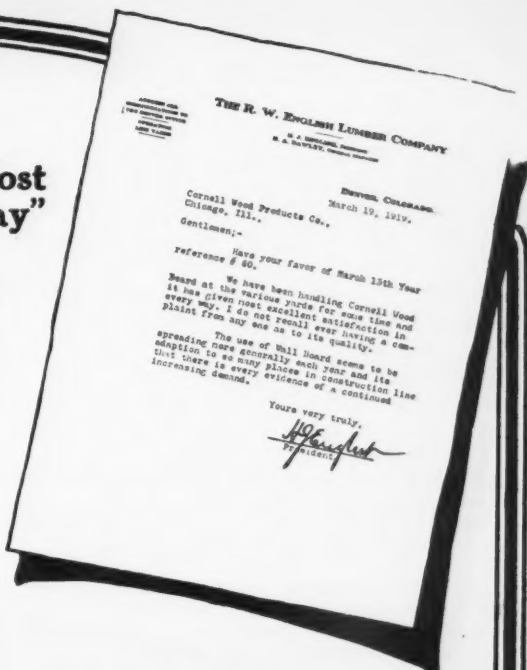
New York City Minneapolis Denver Los Angeles Dallas

Foreign Offices: Wellington, New Zealand; Melbourne, Australia; Johannesburg, S. Africa

Largest Manufacturers of Wall-Board Under One Roof  
Mills at Cornell, Wis., Operated by 20,000 H. P. Water Power

# Cornell-Wood-Board

Excels for Walls, Ceilings and Partitions  
Repairs, Alterations or New Work



## PAASCHE PORTABLE PAINTING OUTFITS

### SAVE TIME, LABOR AND MONEY

Contractors will find no modern labor-saving invention that really makes them as much money as the Paasche Painting Equipment. With this equipment one man does the work of from four to eight men. This immediately reduces the cost of both exterior and interior painting.

#### QUICKER--BETTER--CHEAPER

From thirty to forty square feet of paint is easily applied per minute, and being applied by compressed air a cleaner, smoother and more uniform finish is obtained. The same smooth finish is given the roughest corners and edges, hollows, laps, and irregular joints.

The Paasche Painting Outfit is equipped to do all general painting, calcimining, varnishing of floors and all around decorating and finishing. From largest battleship or building to the smallest job of decorating, the Paasche Outfit will do it better and at a great saving.

The United States Government uses Paasche Portable Painting Equipment in all railroad and shipbuilding yards and wherever paint is needed.

#### CONTRACTORS

Can you afford to do less than investigate a proposition that offers you such an opportunity? Write today for complete information. It will make you money.

**Paasche Air Brush Co.**

1230 W. Washington Blvd., Chicago, Ill., U. S. A.



scriptions of them. Also a number of construction scenes are shown.

"A Tool of Real Economy" is the description applied to the Jorgensen clamp in a circular issued by the Adjustable Clamp Co., Chicago, Ill. The circular describes and illustrates the handy clamp this company manufactures.

Roofing Shingles and Roll Roofing are described and illustrated in a series of four booklets, issued by the Barrett Co., New York City. These booklets give the builder a wide choice in selecting roofings and contain some valuable information regarding their uses and durability.

"The Whitney Window" is the title of an exceptional booklet on casement windows, issued by the Whitney Window Corporation, Minneapolis, Minn. The booklet contains forty-four pages and cover, describing the casement window hardware this company makes. A feature

is the full-page plates showing both interior and exterior views of notable sun parlors and sleeping porches.

"Neponset Twin Shingles" appears on the cover of the folder containing a sample of this shingle, distributed by Bird & Son, Inc., East Walpole, Mass., the manufacturers. Inside is a section of this asphalt, slate-covered shingle.

"Brick Silos and How to Build Them" is the title of an instructive twenty-four-page and cover booklet issued by the J. P. Christensen Silo Co., Racine, Wis. The booklet is illustrated with pictures of silos and a description of their construction.

Hinges and door butts of all kinds are described and illustrated in an exceptionally comprehensive catalog on this subject, issued by the Chicago Spring Butt Co., Chicago. The catalog contains forty-eight pages and cover.

"Bostwick Truss-Loop Metal Lath" is the title of a twenty-eight-page and cover booklet, issued by the Bostwick Metal Lath Co., Niles, Ohio. The booklet describes by text and illustrations the methods of metal lath construction in using the materials this company manufactures.

Blue print plans of twelve modern corn cribs and granaries are contained in a new booklet issued by the

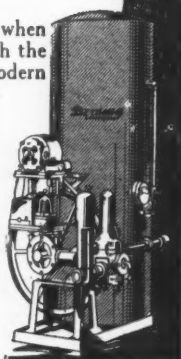
## Contractor and Owner Both Profit

ADVISE the installation of a water system when your client is building. Putting it in with the plumbing saves money and assures a more modern and enjoyable home. Suggest the most economical and efficient Deming system to fit his special needs and take the order and extra profit yourself.

Don't miss the next opportunity. Send for complete information, now!

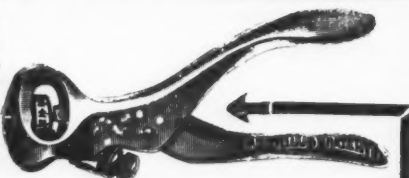
THE DEMING CO., 99 Depot St., Salem, O.

**Deming**  
WATER SYSTEMS



## Worth Much to You

### Morrill Saw Set



All master carpenters are using this Saw Set. In one operation it takes out the wrong set and puts in the right one. Write for FREE booklet "Saw Points." It tells how to properly joint, set and file hand saws.

CHAS. MORRILL

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NEW YORK

There's beauty and durability and satisfaction for contractor, architect and owner in every brushful of

TRADE MARK **NICE** REG. U.S.A.

**VARNISHES  
WOOD FILLERS  
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Prices, Samples, Literature on request  
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### MOULDS For Ornamental Concrete

The locking and squaring device on our moulds insures perfect alignment and increases production 25%.

Send for our portfolio of designs covering various periods

—all architecturally correct. They include designs of Balla, Balusters, Bases, Bird Bath Font, Capitals, Flower Boxes, Jardinieres, Vases, Lawn Benches, Monolithic Shafts, Lighting Standards, Sectional Columns, Pedestals, Fiers, Posts, etc.

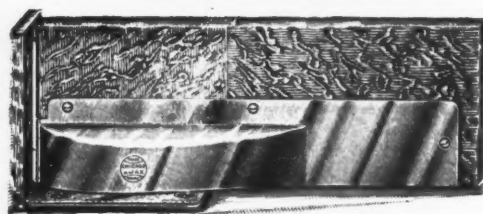
**Ideal Concrete Machinery Co.**

1308 Monmouth Street

CINCINNATI, OHIO



## TRADE MARK **CHICAGO** MARK **SPRING HINGES**



## Appearance — Economy — Durability The "AJAX"

In the "Ajax" we offer a Floor Spring Hinge with Ball Bearings at the top of the Hinge, away from dust and moisture.

Alignment Adjustment that is easily accessible.

Roller Bearings for the piston, to overcome friction.

Durability, Economy and Appearance, backed by our REPUTATION.

Send for Catalogue C 36.

**Chicago Spring Butt Company,**  
CHICAGO NEW YORK



The plane  
that  
saves time

**T**HIS exceptionally light plane is accurate in every detail: it has the right "feel" and planes true. Yet one thing makes it stand head and shoulders above all:

*The cutter can be removed, whetted and replaced without readjusting*

The cap iron and clamp are in one piece—and hold the thin, short cutter so tightly that it cannot chatter even when cutting across the grain. Without removing your hand from the handle any necessary adjustments can be made while you are using the plane. Made in six sizes.

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**SARGENT & COMPANY**

51 Water Street

New Haven, Conn.



## Save \$43.00 This Easy Way

Here is your opportunity to own a genuine Oliver, Model 9, for \$57. The identical model formerly priced at \$100. Not a single change has been made in the machine in order to make this astounding reduction in price.

Only our sales plan has changed. We learned new economies during the war. We found it unnecessary to have great numbers of traveling salesmen and numerous, expensive branch houses throughout the country. We were able to discontinue many other superfluous, costly sales methods. You benefit by these savings.

### Free Trial

We ship the Oliver for free trial. You can keep it for five days. Use it as if it were your own. All without paying one cent in advance.

If you agree that it is the finest typewriter regardless of price, and want to own it, merely pay us \$3 per month until the \$57 is paid.

If you want to return it, ship it back, express collect. We even refund the out-going transportation charges.

During the trial you are the sole judge. No eager salesman need influence you.

### \$3 Per Month

Our easy plan makes it possible for all to own a typewriter. And to use it while paying. There is no need to rent.

You obtain the same wonderful mode used by such big concerns as U. S. Steel Corporation, Pennsylvania Railroad, Encyclopedia Britannica, Otis Elevator Company, Nat'l City Bank of N. Y., and others of equal rank. Over 700,000 Oliver's have been sold!

No Typewriter is finer. It is noted for its workmanship, speed and durability. It is easy to learn. It has a standard keyboard. And all the latest improvements. If any typewriter is worth \$100 it is this splendid Oliver.

Mail the coupon now for our remarkable booklet entitled "The High Cost of Typewriters—The Reason and the Remedy," sent free, together with details of our plan. Then you may order a FREE Trial Oliver.

Canadian Price, \$72

**The Oliver Typewriter Co.**

240A Oliver Typewriter Bldg., Chicago, Ill.

(48.03)

THE OLIVER TYPEWRITER COMPANY, 240A Oliver Typewriter Building, Chicago, Ill.

☐ Ship me a new Oliver Nine for 5 days' free inspection. If I keep it, I will pay \$57 at the rate of \$3 per month. The title to remain in you until fully paid for.

My shipping point is \_\_\_\_\_

This does not place me under any obligation to buy. If I choose to return the Oliver, I will ship it back at your expense at the end of five days.

☐ Do not send a machine until I order it. Mail me your book—"The High Cost of Typewriters—The Reason and the Remedy," your de luxe catalog and further information.

Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Occupation or Business \_\_\_\_\_

Meadows Manufacturing Co., Pontiac, Ill. The plans are exceptionally helpful and instructive to builders of farm buildings. Besides the blue prints the booklet contains twelve pages of text and illustrations describing the elevators the Meadows company manufactures.

"Superior Inside Corner Beads and Others" is the title of a booklet issued by the Milwaukee Corrugating Co., Milwaukee, Wis. The sixteen pages and cover are devoted to illustrated descriptions of the corrugated metal corner beads this company makes.

Woodworking machinery of all kinds, including band saws, bench saws, jointers, etc., is described and illustrated in a comprehensive 192-page and cover booklet issued by the P. Prybil Machine Co., New York City. Every machine is described by text and illustration.

Slate Roofing for Sloping Surfaces is the subject of two service sheets, containing details and specifications, issued by the Vendor Slate Co., Bangor, Pa. The sheets are instructive and valuable to builders in putting on this roofing material.

Flour mill machinery and equipment for feed mills and elevators are illustrated and described in a 272-page bound catalog issued by the Wolf Co., Chambersburg, Pa. Every machine required in mills of these kinds, together with half-tones showing many fine mill buildings, are included in the catalog.

"Modern Building Ideas and Plans" is a 64-page and cover booklet issued by the Certaineed Products, East St. Louis, Ill. The book contains perspectives, floor plans and descriptions of a wide range of buildings, including homes, farm buildings and business buildings.

## How Can We Keep the Man on the Job?

When a man works three days and then quits he has not paid the cost of showing him how to do his work; yet that is what an amazing number of men are doing. Reports of the Bureau of Labor Statistics show that all over the country "industrial tourists" are causing widespread and exceedingly high labor turnover. Even among building contractors, who do not appear to be so badly off as many machine shops and other factories, the same condition is apparent, tho in less degree. An analysis of the year 1917, made by the Aberthaw Construction Co., of Boston, Mass., shows that about 19 per cent of the men employed on construction work during that year worked three days or less. More than half of the total number of men employed quit within two weeks.

This is a problem in psychology, in costs and in general efficiency. It is not only that these men have to be trained each time they attach themselves to a payroll to do the particular thing which they are required to do, but these continual changes must have their effect upon those who remain longer on the job. The spirit of team work, so necessary in all organizations, particularly those of the building trades, is heavily impaired by this state of unrest.

The cost of training these men anew every time they change jobs is an unwarranted tax on the pocketbooks of the American people. The separations from the job are largely, apparently, a case of whim on the part of the men, for more than two-thirds of those who leave voluntarily do so without giving any reason whatever, and many of the reasons given are far from logical. The subject is one which will repay careful study, and any labor manager who first finds an adequate solution may look forward to rich rewards for his organization.



Stained with Cabot's Creosote Stain  
C. M. Hart, Architect, Bay Shore, N. Y.

### Stained Shingles

*The Warmest, Most Artistic and Most Economical of all House Finishes*

Wood shingles are two or three times warmer than the gummed paper substitutes, and they are cheaper, last longer and are incomparably more artistic and attractive. When stained with the soft, moss-greens, bungalow-browns, tile-reds and silver-grays of

### Cabot's Creosote Stains

they have a richness and beauty of tone that no other finish can equal and the creosote thoroughly preserves the wood. Use them also on siding, boards, sheds and fences. Anyone can apply them with best results at least expense.

### Cabot's "Quilt"

makes floors and partitions sound-proof by breaking up the sound-waves and absorbing them. It makes walls and roof cold- and heat-proof by a cushion of minute dead air spaces that prevents the conduction of heat. From 28 to 50 times as efficient as cheap building paper.

You can get Cabot goods all over the country  
Write for samples and name of nearest agent.

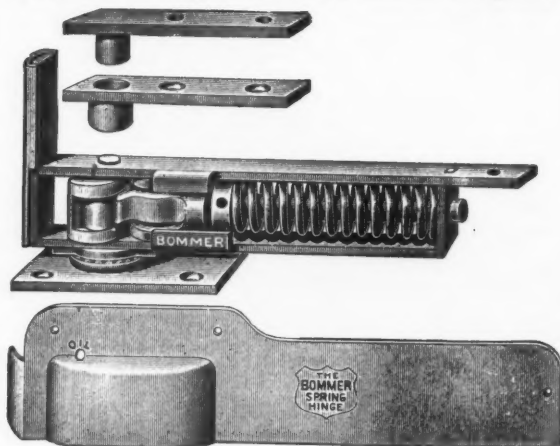
### SAMUEL CABOT, Inc.

Manufacturing Chemists BOSTON, MASS.  
1133 Broadway, New York 24 W. Kinzie St., Chicago  
Cabot's Brick Stains, Stucco Stains, Conserve Wood Preservatives, Damp-proofing, etc.

# BOMMER

## Floor Surface Spring Hinge

Double or Shingle Action, Holdback, Ball Bearing. Every moving part of this hinge can be oiled from a single hole on outside of side-plate.



The most durable hinge of its type; holds the door open when swung to 90 degrees at either side

Your Hardware Merchant Can Supply Them

**Bommer Bros., Manufacturers, Brooklyn, N.Y.**





Hotel CLEVELAND Ohio: Graham, Anderson, Probst & White, Chicago, Architects;  
John Simmons Co., New York, Jobbers;  
W. G. Cornell Co., New York, Plumbers

# KOHLER

And HOTEL CLEVELAND

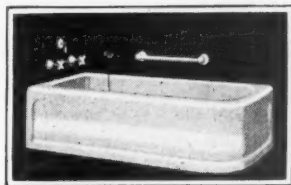
Holding high rank among the many genial attractions of Cleveland's newest hotel are 550 Kohler "Viceroy" Built-in Baths. Ever an immaculate white, because Kohler Enamel is so easy-cleansing—these hygienic baths—low-sided, full-sized, yet requiring not even usual tub space—are a courtesy which quality-folks invariably appreciate.

\* \* \*

May we place a copy of that convenient handbook, "KOHLER of KOHLER," in your file?

## KOHLER of KOHLER

Kohler Co., Kohler, Wis.  
Shipping Point, Sheboygan, Wis.  
AND TWELVE AMERICAN BRANCHES



Kohler "Viceroy" Bath  
Corner Pattern

MANUFACTURERS OF ENAMELED PLUMBING WARE



Let us send you portfolio of wood panels free. With it you can show your clients just how their woodwork and floors will look when finished with Johnson's Wood Dye, Prepared Wax, Under-Lac, Flat Wood Finish, etc.

In this portfolio the Johnson finishes are shown on all popular woods—panels of other woods sent on request. The portfolio also gives full specifications and instructions, as well as covering capacities. Any good painter can successfully use Johnson's Artistic Wood finish.

## JOHNSON'S WOOD DYE

is a dye in every sense of the word—it is made in twelve different shades—it goes on easily and quickly without a lap or streak—and it is put up in glass jars so there is no possibility of color changing.

We will also be glad to send you free a copy of our booklet, "The Proper Treatment for Floors, Woodwork and Furniture." It is full of valuable ideas and information for any one interested in the proper finishing of wood. Its practical suggestions may mean money to you.

Use attached coupon

**S. C. JOHNSON & SON**  
"The Wood Finishing Authorities"  
RACINE, WISCONSIN

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"The Wood Finishing Authorities"  
Racine, Wis.

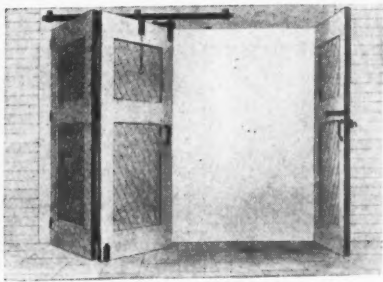
Please send me free and postpaid your portfolio of wood panels and booklet, "The Proper Treatment for Floors, Woodwork and Furniture."

Name .....

Address .....

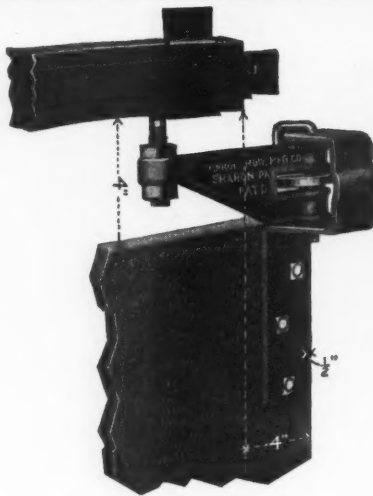
I buy from .....

S. C. JOHNSON & SON, Dept. AB7, Racine, Wis.

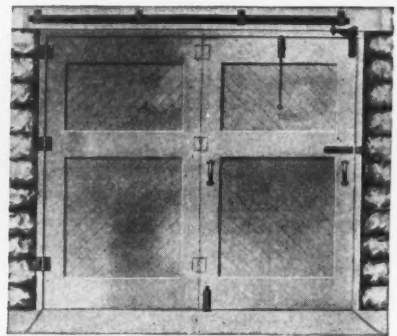


Patented Oct. 16th, 1917, others pending

**Illustration showing Three Door  
Equipment opening on the  
inside of the Garage**



**Illustration showing location of  
Hanger and Track**



Patented Oct. 16th, 1917, others pending

**Illustration showing Two Door  
Equipment opening on the  
outside of the Garage**

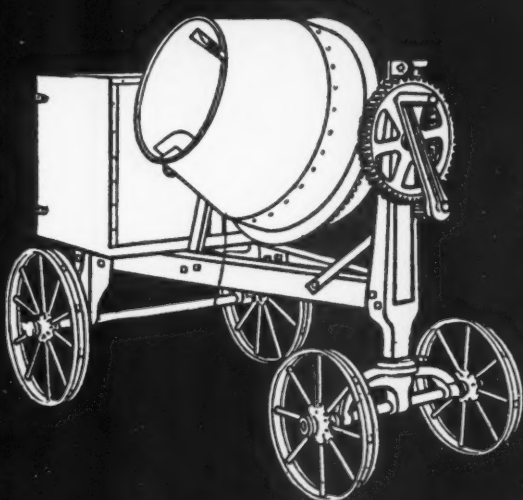
## The SHARON No. 9 (Fold-Tight) Garage or Barn Door

Equipment can be used for a Two, Three, or Four Door Combination sliding inside or outside of the building (Compare with Others). There are no adjusting brackets or built-out arrangement of the track: the doors fold back parallel with the opening, note the doors do not slide in the threshold as they swing clear of the sill before the sliding begins giving a closer fit than would be possible if the doors had to slide in the threshold.

**WRITE FOR CATALOG.**

**SHARON HARDWARE MANUFACTURING CO., Sharon, Pa.**

# Stewart



## THE BUILDING SEASON IS AT ITS HEIGHT

**B**UILDERS are busier than ever before. Everywhere, big buildings, homes, barns, hog houses, feeding floors, silos, sidewalks, bridges, roads, etc. are being constructed—concrete construction is being pushed from every source.

Are you getting your share of the work? Are you properly equipped to handle it? If you are not—you are letting the opportunity of your life slip through your fingers.

Why not take the bull by the horns—get in on the ground floor, equip yourself with a Stewart Mixer, rush out for the business, get it, and prosper instead of just getting along.

### STEWART MIXERS

are the kind of machines that you can depend on—they save you dollars and make you dollars—they cut down the cost of mixing and the cost of upkeep.

They are built on the square and sold on the square. When you buy a Stewart, you get a machine that is well designed, well balanced and well made—a machine that will stand the knocks and deliver the profits.

We build them in five sizes, priced from \$60.00 up.

Write for catalog NOW.

**STEWART MANUFACTURING CO.**

51 Rath Street, Waterloo, Iowa

# FRONT RANK

TRADE NAME REGISTERED

## STEEL FURNACES

lished a nation-wide reputation for giving satisfaction to the user.

Its **Gas proof** and **Dust tight** construction appeals to the owner.

Contractors can make no greater contribution, for the comfort and convenience of their customers, than the installation of a **FRONT RANK** FURNACE.

Equally practical for residence, church, school or store.

Write us today for complete catalogs and information.

Settle for all time the question as to which furnace is best and what your future purchases should be. Plans furnished free.

Your inquiry will receive immediate attention.

**Haynes-Langenberg Mfg. Co.**

4052 Forest Park Blvd.

St. Louis, Mo.

FILL OUT THIS COUPON AND MAIL IT TODAY!

Haynes-Langenberg Mfg. Co., 4052 Forest Park Blvd., St. Louis

Please send me, at once, your latest catalogue and literature.

Name..... Street No.....

City..... R. F. D. No..... State.....



TRADE MARK REGISTERED.

## "YANKEE" TOOLS

PUSH DRILL No. 44

*Saves Time at Every Turn*

Here you have a rapid fire drill, with adjustable tension for hard or soft woods and the 8 different size Drill Points furnished with it.

A turn of the cap does the trick that saves time, labor and Drill Points. This drill is about as valuable to the average mechanic as any "Yankee"

Tool we make. Built for hard service. Your dealer can supply.

Send for the "Yankee" Tool Book  
A postal will do

**NORTH BROS. MFG. CO.**  
PHILADELPHIA, PA.







## Griffin

### Pressed Steel Door Stops

No. 640

Are drawn into shape from one piece of high quality Cold Rolled Steel making them extra strong—guaranteed indestructible.

The rubber bumper is made from the best rubber and is backed up by a metal disc, which in turn is knurled, "ENTRENCHED," in place—and will stand all the "Banging" one can possibly give it, and absolutely cannot work out of place.

### Beautiful Yet Plain

Compare this beautiful, plain door stop with the ordinary kind. It is modern and when finished in any of the various Griffin Hardware Finishes, it harmonizes with the beautiful interior finish of the Modern Home or Building.

No sharp edges or corner to cut the hand on, catch the clothes, as the woodwork is dusted. This is the door stop your customer is looking for. Have your Hardware Dealer show them to you.

*Send for complete circulars  
and information at once*

## The Griffin Mfg. Co.

Erie, Pennsylvania

45 Warren St.  
NEW YORK

17 E. Lake St.  
CHICAGO

# Starrett Tools



Whether for Carpenters or Machinists, these tools are made to supply the needs of the men who use them. In the whole Starrett line of 2,100 tools of different kinds and sizes, there is not one that was added merely to increase the line. Each was designed to do some particular phase of its work a little better than any similar tool already on the market could do the work.

Illustrated tool catalog No. 216 sent free for the asking.

**The L. S. Starrett Co.**

The World's Greatest Toolmakers  
ATHOL, MASS.



42-949

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**Ultra Speed Saw Works**  
Main Office and Factory  
317-355 Broad Ave. FRACKVILLE, PENN.

## The Saw of Saws

**T**HERE is only one ULTRA SPEED. It's the Saw with the *Hooked Teeth* and the handle on the lower portion of the blade. This makes it the *fastest, easiest and smoothest* cutting Hand Saw in the *World*. It will hold its keen cutting edge five (5) times as long as other makes, and is easily filed with a regular file. The ULTRA SPEED is made from A No. 1 Crucible Steel, ground 4 gauge taper, highly finished, with polished and carved Apple Wood Handle. If your dealer does not have them in stock, \$3.75 will bring a 26 inch saw on 30 days' TRIAL. If it proves to you that it is the BIGGEST find in the CARPENTER INDUSTRY, tell your friends. If not, tell US and we will refund your money. Pamphlets are mailed upon request.

**\$10**  
BRINGS IT  
TO YOU

## DO YOUR OWN LEVELING WITH YOUR OWN LEVEL

### Sold On Easy Monthly Payments

Now you have the opportunity to own a strictly high-grade, accurate Convertible Level on Aloe's Easy Rental Purchase Plan—and without previous experience, or technical knowledge, you can put it to work so that it will make big money for you. Only \$10.00 brings it to you—then put it to every possible test. If you are pleased with it, pay the small monthly installments and the level is yours.

### Aloe Convertible Level

It is a combination transit and level, quickly converted to the use of either. It is absolutely accurate—satisfies the requirements of the most exacting contractors—yet is so simple that anyone, without technical education can use it. Sights above and below the horizontal can be taken. You can use it for leveling up foundations, walls, piers, running boundary lines, fences—in fact, a thousand and one jobs you meet every day that require an accurate level.

### You Learn To Use It In An Hour

No technical knowledge necessary. No previous experience is needed. With our simple and complete instruction book included free with every level, you can immediately put the instrument to work. It starts to pay for itself immediately and continues to be a permanent money-making investment.

### Write For Free Book

It tells you how to increase your income, how to get the profitable jobs and become a bigger man in your community. Don't doubt or delay—write for this book at once.

**A. S. ALOE CO.**

621 Olive St.,  
St. Louis, Mo. U.S.A.

FREE  
Write  
for  
This  
Book

BE A  
BIGGER  
BUILDER

### MAIL COUPON TODAY

A. S. ALOE CO. 621 Olive St., St. Louis, Mo.  
Without obligation, send me your free book, "Be A Bigger Builder". Also full particulars about the Aloe Convertible Level and details of your easy payment plan.

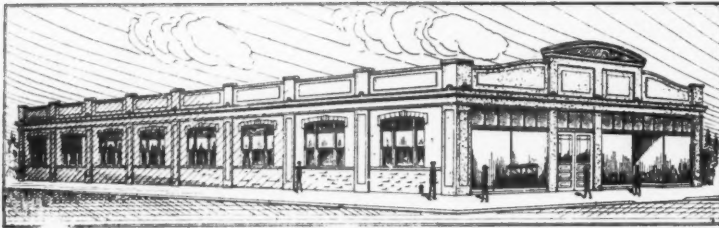
Name .....

Address .....

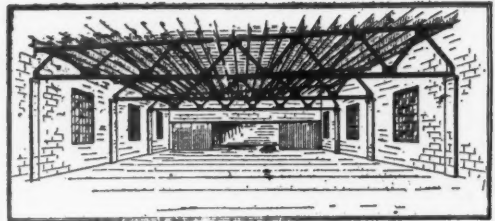
### Ten Days' Free Trial

Order the Aloe—try it for 10 days—put it to the most rigid tests. If you are not pleased, return it at our expense and your \$10.00 will be refunded. If satisfied, pay for it in small monthly payments.

## MODERN GARAGES



GARAGE—ROUND LAKE, ILL.



GARAGE—ST. JOHNS, MICH.

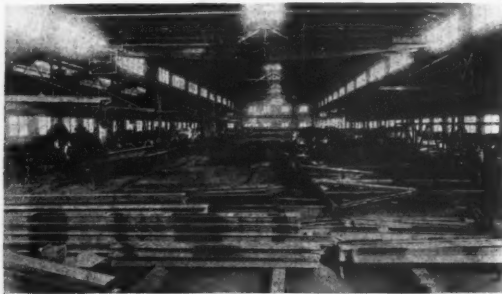
Write for One of Our "Garage Illustrations," Showing at Least 50 Modern Buildings Designed By Us

### STRUCTURAL STEEL—MODERN STORE FRONTS—FIREPROOF BUILDINGS

STEEL WINDOWS—FIRE ESCAPES—WIRE PRODUCTS—STEEL BRIDGES—ELEVATORS—STEEL  
CEILINGS—SKYLIGHTS AND CORNICES—MILLWORK AND GLASS—ROOFING

### "INTERNATIONAL SERVICE"

Means immediate shipment of your orders from one of the largest stocks of steel in the world  
Plants operate 24 hrs. per day

INTERIOR VIEW OF STRUCTURAL STEEL PLANT  
EVANSVILLE, INDIANA

## INTERNATIONAL STEEL & IRON CO., Inc.

Address Dept. 18

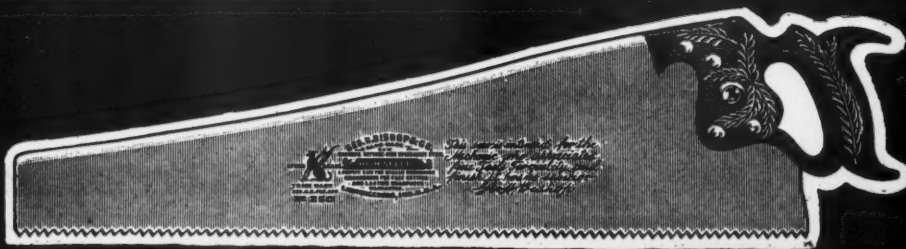
EVANSVILLE, IND.

#### OPERATING

INTERNATIONAL STORE FRONT CO.—INTERNATIONAL WOODWORKING CO.  
INTERNATIONAL BRIDGE CO.

#### WE OPERATE

STEEL PLANTS—SHEET METAL PLANTS—WOODWORKING PLANTS



## Bishop's "High Speed" Saws No. 250

Good Builders know what it means to have a good saw—one that is perfectly balanced—one that has just the right feel—one that runs fast and cuts easy.

Bishop's high speed saws are finely adjusted, tough and flexible—made of high grade steel that retains its keen cutting edge.

They are given exceptionally careful attention thro the entire process of manufacture. Each process is handled by an expert in his line. Each saw is subjected to extreme tests before it goes to the next department. By this process Carpenters and Builders are assured that the money they spend for a Bishop Saw buys the best product of its kind on the market.

Thousands of contractors have found them to be the best saw made at any price.

Write for Booklet describing in detail the various kinds of Bishop Saws—use it for your future buying guide.



**George H. Bishop & Company**  
LAWRENCEBURG, INDIANA





CONTROLS LIGHTNING  
None Genuine Without this Trade-Mark

## LIGHTNING RODS

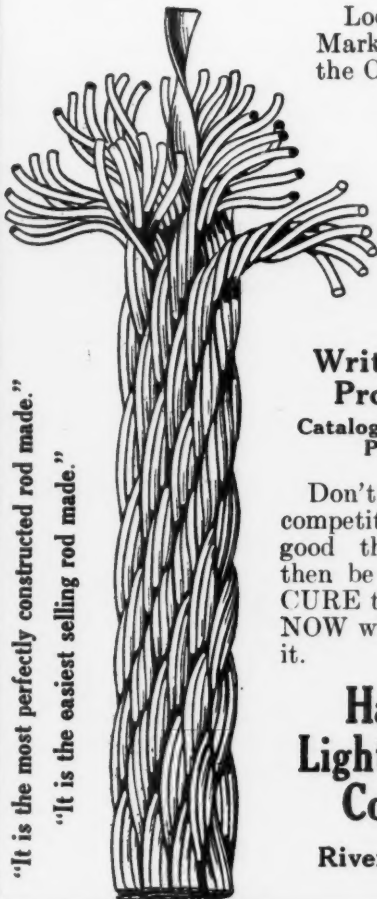
**That are 100% Protection  
The Best By Test**

CARPENTERS and BUILDERS make large PROFITS selling our ALL FEATURE CABLE made of 36 strands of PURE SOFT COPPER with AUGER SHAPE PURE SOFT COPPER STRIP in center, which keeps the ground rod moist at all times. That's not all, it has all the wires on the outside exposed to the surface.

COVERING a period of 20 YEARS there has been over 120,000 buildings equipped with this SYSTEM without one single loss.

Your CLIENTS rely on your good judgment when they build. Lightning Protection is indispensable to their COMFORT. When you supply them with the HAWKEYE SYSTEM it means GUARANTEED PROTECTION for a Lifetime.

Don't be satisfied with just selling rods. Sell ABSOLUTE LIGHTNING PROTECTION. It costs no more than the ordinary.



Look for the Trade Mark on the Spool of the ORIGINAL ALL FEATURE LIGHTNING ROD. It is a sign of a MOIST GROUND ROD.

### Write For Our Proposition

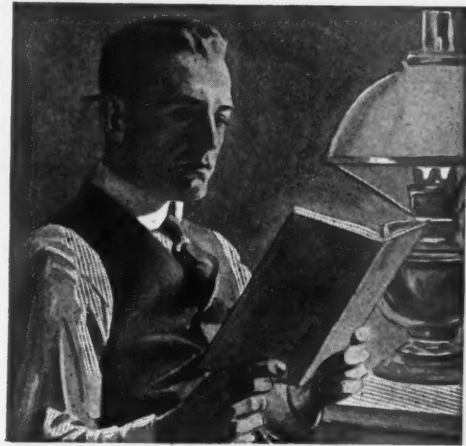
Catalog, Samples, and Price: Free

Don't wait until your competitor sees it is a good thing. You will then be too late. SECURE the AGENCY NOW while you can get it.

**Hawkeye  
Lightning Rod  
Company**

Riverside, Iowa

"It is the most perfectly constructed rod made."  
"It is the easiest selling rod made."



## \$95 an Hour!

"Every hour I spent on my I. C. S. Course has been worth \$95 to me! My position, my \$5,000 a year income, my home, my family's happiness—I owe it all to my spare time training with the International Correspondence Schools!"

Every mail brings letters from some of the two million I. C. S. students telling of promotions or increases in salary as the rewards of spare time study. What are you doing with the hours after supper? Can you afford to let them slip by unimproved when you can easily make them mean so much?

For 28 years men in offices, stores, shops, factories, mines, railroads—in every line of technical and commercial work—have been winning promotion and increased salaries through the I. C. S. Over 100,000 men are getting ready *right now* in the I. C. S. way for the bigger jobs ahead.

### Your Chance Is Here!

No matter where you live, the I. C. S. will come to you. No matter what your handicaps, or how small your means, we have a plan to meet your circumstances. No matter how limited your previous education, the simply written, wonderfully illustrated I. C. S. text-books make it easy to learn. No matter what career you may choose, some one of the 280 I. C. S. Courses will surely suit your needs.

One hour a day spent with the I. C. S. will prepare you for the position you want in the work you like best. Yes, it will! Put it up to us to prove it. Mark and mail this coupon now!

### TEAR OUT HERE INTERNATIONAL CORRESPONDENCE SCHOOLS 8168 SCRANTON, PA.

Explain, without obligating me, how I can qualify for the position, or in the subject, before which I mark X.

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| <input type="checkbox"/> ARCHITECT                  | <input type="checkbox"/> SALESMANSHIP               |
| <input type="checkbox"/> Architectural Draftsman    | <input type="checkbox"/> ADVERTISING                |
| <input type="checkbox"/> Contractor and Builder     | <input type="checkbox"/> Window Trimmer             |
| <input type="checkbox"/> Building Foreman           | <input type="checkbox"/> Show Card Writer           |
| <input type="checkbox"/> Concrete Builder           | <input type="checkbox"/> Sign Painter               |
| <input type="checkbox"/> Structural Engineer        | <input type="checkbox"/> BOOKKEEPER                 |
| <input type="checkbox"/> Structural Draftsman       | <input type="checkbox"/> Stenographer and Typist    |
| <input type="checkbox"/> Ship Draftsman             | <input type="checkbox"/> Higher Accounting          |
| <input type="checkbox"/> Plumber and Steam Fitter   | <input type="checkbox"/> COMMERCIAL LAW             |
| <input type="checkbox"/> Heating and Ventilation    | <input type="checkbox"/> Common School Subjects     |
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| <input type="checkbox"/> Sheet Metal Worker         | <input type="checkbox"/> ILLUSTRATING               |
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| <input type="checkbox"/> Telephone Work             | <input type="checkbox"/> TRAFFIC MANAGER            |
| <input type="checkbox"/> MECHANICAL ENGINEER        | <input type="checkbox"/> AUTOMOBILE OPERATING       |
| <input type="checkbox"/> Mechanical Draftsman       | <input type="checkbox"/> Auto Repairing             |
| <input type="checkbox"/> Machine Shop Practice      | <input type="checkbox"/> Navigation                 |
| <input type="checkbox"/> STATIONARY ENGINEER        | <input type="checkbox"/> AGRICULTURE                |
| <input type="checkbox"/> CHEMIST                    | <input type="checkbox"/> Poultry Raising            |

☐ Spanish  
☐ French  
☐ Italian

Name \_\_\_\_\_  
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Street \_\_\_\_\_  
and No. \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

# Hundreds of Dollars Untouched Profits

For Contractors and Builders  
in selling the well known

## "MEYER" ELEVATOR



Admittedly the most correct engineering principles, the handiest and lightest running Elevator made. Only best and strongest materials. Easiest to install.

"J. C. Schrock, Milford, Neb., Contractor, sold 17 No. 1 Elevators in one year alone."

*Valuable blue prints and large catalog free. Write for agency proposition today.*

**A. F. Meyer Mfg. Co.**  
301 Wilson St. Morton, Ill.



*After thorough investigation  
Architect Van Horn specified E-Cod Fabric  
for this and others of his splendid North  
Dakota Residences.*

**I**NQUIRY proves that it is the ideal plastering base for every exterior and interior use on either new or old buildings. U. S. tests pronounce it equal in service to any base, regardless of cost, though much cheaper in first cost.

*IT SAVES 25% to 40% of the scratch coat usually required for an open mesh lath to form the key.*

*IT SAVES the cost of building paper and when applied directly to sheathing, furring strips can be eliminated.*

*IT SAVES cost of sound-deadening material in walls and ceilings, because the felt backing is itself a deadener.*

*IT SAVES a great amount of cracking and checking caused by shrinking of lumber when ordinary plastering bases are used.*

It is a fire retardant because of the close bond between the felt backing and mortar.

On exterior work the felt backing not only water-proofs the super structure and prevents plaster from coming into contact with any wood, but causes the galvanized reinforcement to become **COMPLETELY INCASED** in the mortar so that it cannot **RUST** or **CORRODE**.

*Write for our complete catalog—  
it will acquaint you with all the  
details and exceptional features  
that are to be found only in  
E-COD FABRIC.*

## MacADAMS & CALL

111 W. Washington Street  
Chicago, Illinois

Sole representative  
**E. D. CODDINGTON MFG. CO.**  
North Milwaukee, Wis.

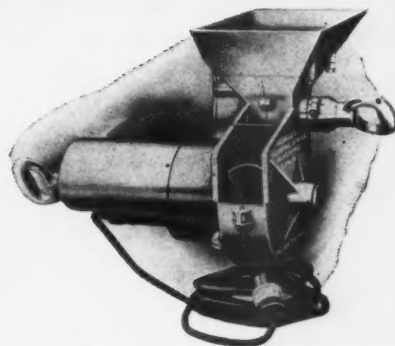


Before



After

Home of Joseph Noterman



## Greater Results—Lesser Toil

One man to mix—One man to supply material to machine—One operator—a total of 3 men, means a saving on every stucco contract of 50% to 75%. You can underquote your competitors, yet make a wider margin of profit.

## Hodges Electric Stucco Machine

Weighs but 30 pounds—hangs from shoulder of operator. Attaches to any electric light socket. Projects stucco, plaster, waterproofing and concrete aggregate on concrete, hollow tile, bricks, blocks, stone, metal and wood lath. Obtains any artistic effect. Places with more force, hence more permanently. The centrifugal force with which the stucco is projected, produces an enamel surface. Metal lath is completely imbedded in a depth of  $\frac{3}{8}$ ".

*Write for Folder Showing Views of Before and After Overcoating*

**Hodges Stucco Machine Works** Dept. K Union Central Tower, Cincinnati, U.S.A.

### EVIDENCE

Cincinnati, O., June 19, 1919

Cincinnati Stucco Placing Co.  
Cincinnati, Ohio

Gentlemen:—

Allow me to thank you for the photograph showing my finished residence, 1515 Scott St., Covington, Ky., after making the changes and overcoating with stucco, as per contract given you.

The work is splendid and I am convinced that stucco projected with the Hodges Electric Stucco Machines used by your company is superior, both as to firmness and artistic finish, than is possible by hand application.

Wishing you the success you deserve,

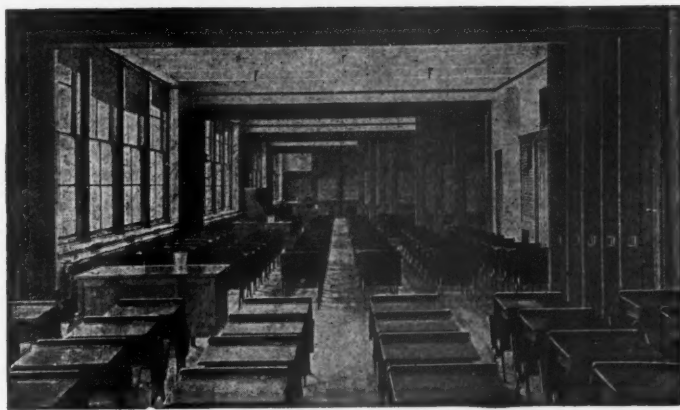
I am

Respectfully yours,

Jos. Noterman

## "A HANGER FOR ANY DOOR THAT SLIDES"

### CLASS ROOM PARTITIONS



—in schools, churches, libraries and similar buildings in which it is desired to open class-rooms into the main auditorium—should be equipped with

### RICHARDS-WILCOX SLIDING DOOR HARDWARE

*For Parallel, Accordion and  
Flush Door Partitions*

Opening and Closing RICHARDS-WILCOX equipped Partitions is remarkably easy. They slide smoothly and quickly.

**WRITE for Illustrated Book.**  
"RICHARDS-WILCOX Sliding Door Hardware for Parallel, Accordion and Flush Door Partitions."

**Richards-Wilcox Manufacturing Co**

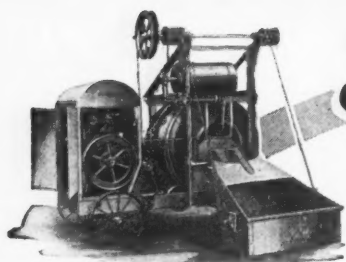
SAN FRANCISCO  
LOS ANGELES  
NEW YORK  
CHICAGO

AURORA, ILLINOIS, U.S.A.

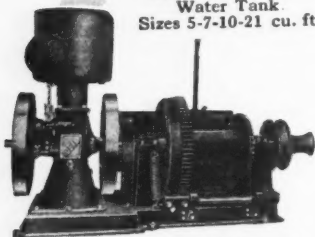
Richards-Wilcox Canadian Co., Ltd., London, Ont.  
"A hanger for any door that slides"

PHILADELPHIA  
MINNEAPOLIS  
BOSTON  
ST. LOUIS





Power Loader and  
Water Tank  
Sizes 5-7-10-21 cu. ft.



One Way Hoists  
—Single Drum.  
Reversible Hoists  
—Double Drum.  
Hoists—a complete  
Hoist Line.

# Knickerbocker

## A COMPLETE LINE

*Built to meet the needs of the User*

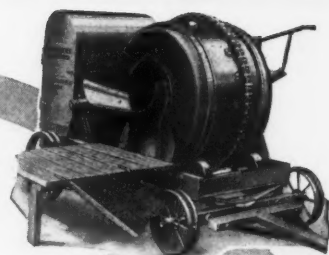
THE Built-in-Merit of Knickerbocker product is what has made it popular. It gives the user what he wants.

And what most of the users of equipment want isn't far from just what is the right thing to have.

Service Points are built into this product instead of talking points, therefore it is dependable. Ask for our General Catalog.

**The Knickerbocker Company**  
525 Liberty St. Jackson, Mich.

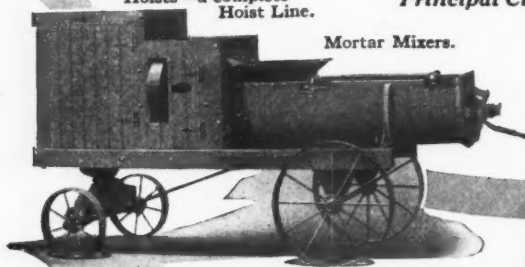
*Quick Deliveries from Stock in All  
Principal Cities in U.S. and Canada.*



Low Chargers  
Sizes 5-7-10 cubic feet.  
With Ideal or Novo  
Engine.



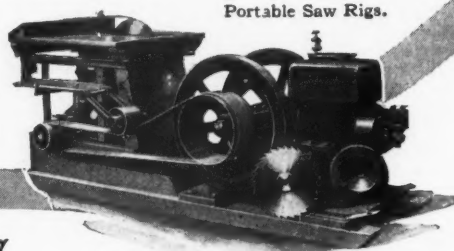
A complete line of  
Diaphragm, and Force  
Pumps on Skids or  
Trucks.



Mortar Mixers.

*Send  
for*

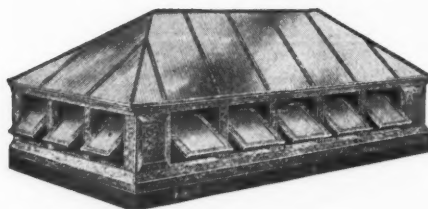
*our  
Catalog*



Portable Saw Rigs.



## Simplicity in Skylight Construction



WILLIS SKYLIGHTS are constructed to give the maximum of light and ventilation, the greatest possible glass area for the space allowed. Made of the best materials by careful, experienced workmen. Strong and durable and guaranteed absolutely water-tight without the use of putty. They do not require experienced workmen to erect. The only tools needed are a hammer and screwdriver.

A WILLIS VENTILATOR for every condition and every type of building. They are built on scientific principles to expel foul air. They prevent the accumulation of disease germs, rot of feed and rust of machinery and equipment. **USE THEM ON YOUR BUILDINGS.**

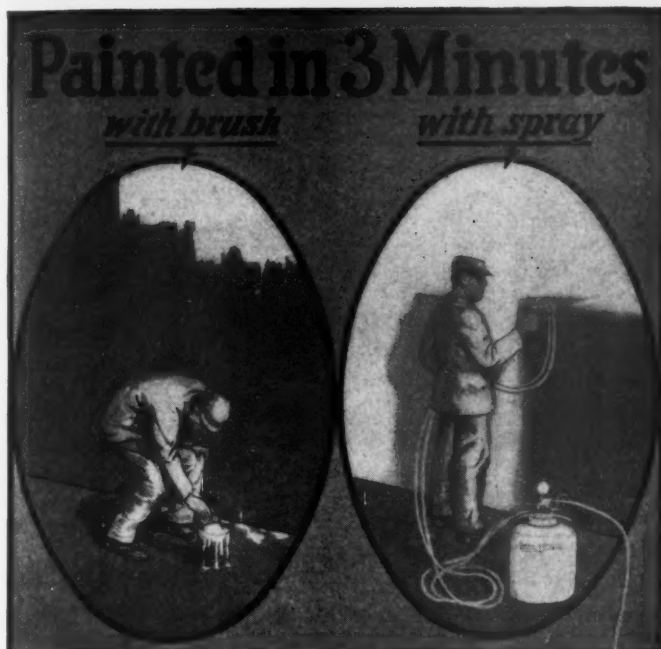
The Trade Mark



of Quality

**THE WILLIS MANUFACTURING CO.**  
106 North Academy Street,  
GALESBURG, ILL.





**I**N 3 minutes 6 square feet were painted by brush and 30 square feet by the

*Aeron* <sup>Painting</sup> *System*  
Surpasses Brushing

## Portable Painting Equipment

In these figures on one painting job you have the average saving in time and labor with this spray-painting equipment.

Practically the same advantage is to be had in painting either inside or outside work, and regardless of the kind of surface coated and the variety of paint used.

In addition, with the Aeron the operator is enabled to coat the hard-to-reach places, and those impossible to paint with a brush, as evenly and completely as he does the more accessible surfaces. Dripping and other wastes are done away with. There is no replacing of costly brushes.

The outfit is easy to operate and to move any place. The construction is simple and dependable, requiring very little upkeep expense. It is adapted to different paints without any changing of parts.

*The time, labor and money saving possibilities of this System of painting are as big on one kind of job as another. Write and let us mail you operation and equipment facts that apply to your individual requirements.*

**The De Vilbiss Mfg. Co.**

1276 Dorr Street

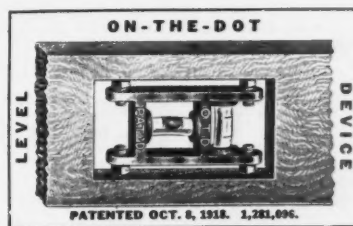
Toledo, Ohio

*All Aeron Equipment sold on a strictly guaranteed-to-make-good basis*

## ON THE DOT LEVEL DEVICES

This remarkable little leveling device is just the instrument carpenters, builders and mechanics have long been waiting for.

Where the job requires a level bar of considerable length and absolute accuracy, O-T-D level devices are of particular advantage.



O-T-D is a small instrument about three inches in length that can be mortised into any board (picked up on the job) making a perfect level or plumb Bob. The cut shows how the O-T-D level device is mortised into a board of any length desired. It is adjusted by four small set screws, one at each corner, which hold it firmly in place.

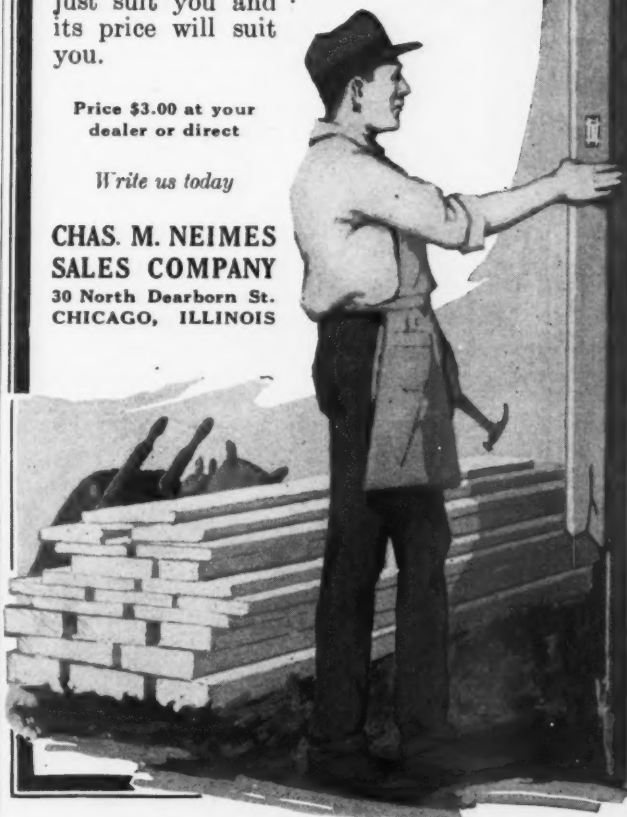
O-T-D does away with the old-fashioned inaccurate plumb bob—saves time and trouble and makes for speed and accuracy.

If your dealer cannot supply you, write us direct. The O-T-D level device will just suit you and its price will suit you.

Price \$3.00 at your dealer or direct

Write us today

**CHAS. M. NEIMES  
SALES COMPANY**  
30 North Dearborn St.  
CHICAGO, ILLINOIS





STADIUM UNIVERSITY OF SYRACUSE

## LIVING-STONE IS A VITAL FACTOR IN CONCRETE CONSTRUCTION

Because it is the only non-acid method yet discovered that will firmly unite fresh concrete with concrete that has already crystallized and set.

In the accompanying illustration you see the Stadium, University of Syracuse, where LIVING-STONE was used as a sure means of Bonding throughout its entire construction and with perfect success.

The contractor said: "Tests showed that it was impossible to cause a fracture to the bond. The fracture to the concrete invariably coming at some other point."

LIVING-STONE is reasonable in price, as one gallon is sufficient to bond from 250-300 square feet with an approximate cost of one cent per square foot.

*Write today for catalogs, bonding data, prices, etc.,—it will profit you.*

**THE LIVING-STONE CO., 703 Law Bldg., Baltimore, Md.**

**BOGALUSA**

Trade-Mark Reg. U. S. Pat. Office

**"BUILD A NEW WORLD"**  
—of "The Dominant Wood of America"  
—The Bogalusa Brand of Southern Pine. The Standard Material for

**INDUSTRIAL, RAIL-ROAD & MARINE USES.**

**1,000,000 FEET DAILY. GREAT SOUTHERN LUMBER COMPANY**  
1600 FOURTH AVENUE  
BOGALUSA, LOUISIANA.

**A BOGALUSA LOG RIDING INTO THE WORLD'S LARGEST SAW-MILL. IT WILL EMERGE 16 INCHES SQUARE BY 75 FEET LONG.**

**WRITE for the BOGALUSA Book of Authoritative PINE STATISTICS.**



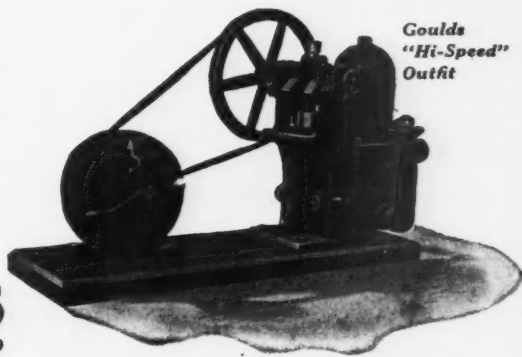
## The Best Pumps Possible—For the Price Charged

During the 71 years The Goulds Manufacturing Company has been building pumps, they have never been satisfied to build pumps which would barely meet their guarantee; their one aim has been to build the best pumps possible for the price charged—and they have found that it pays.



This manufacturing policy is what enables Goulds Pumps to give **low maintenance cost** instead of average, **high efficiency** instead of merely good, long life instead of medium.

Goulds Pumps give better service because they are a better product—and that is why it will pay you to sell them. An opportunity to show you what Goulds Quality really means will be welcomed.



**GOULDS PUMPS**  
1848 "For Every Service" 1919

## THE GOULDS MANUFACTURING COMPANY

MAIN OFFICE AND WORKS: SENECA FALLS, N. Y.

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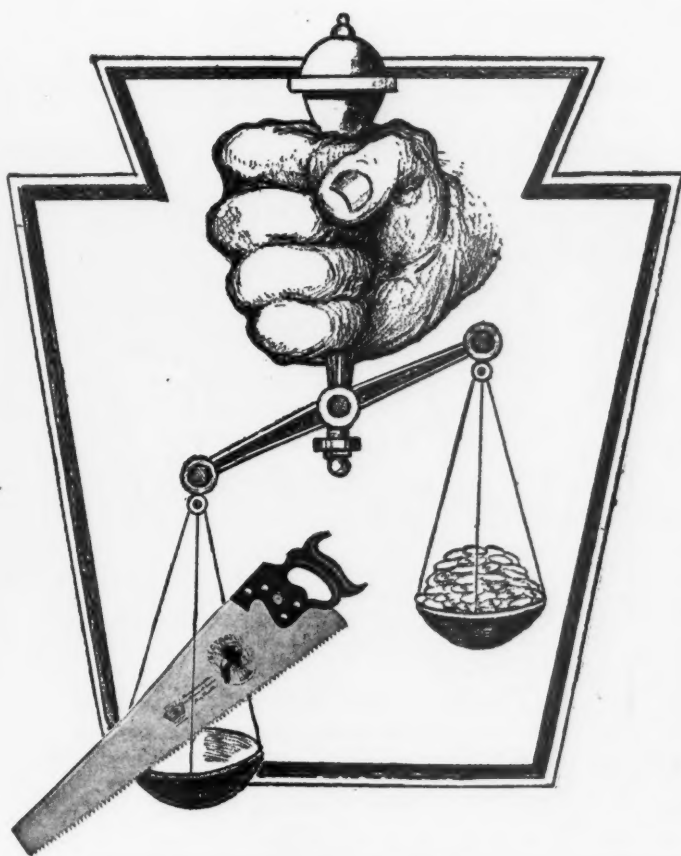
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12-14 S. Clinton St.

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Pittsburgh  
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*Worth many  
times its cost*

**HENRY DISSTON & SONS**  
INCORPORATED  
Keystone Saw, Tool, Steel and File Works  
PHILADELPHIA, U. S. A.

## "I Should Say So!"

Why!—this little "PERFECTION" Level and Plumb Attachment is the biggest convenience I ever possessed. It cost me \$1.00 and I wouldn't sell it for \$10.00—couldn't get along now without it.

You can slip it on a pocket rule or square, or straight edge of any kind, and level or plumb anything anywhere—positively accurate.

Who would be bothered now with a big cumbersome level, when this little "PERFECTION" can be carried in the vest pocket always ready for use?

### You Contractors—

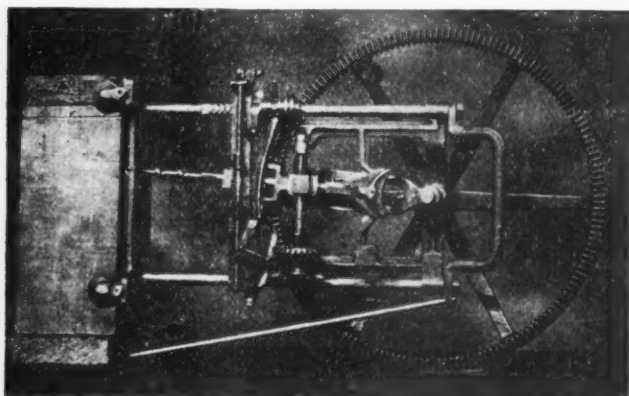
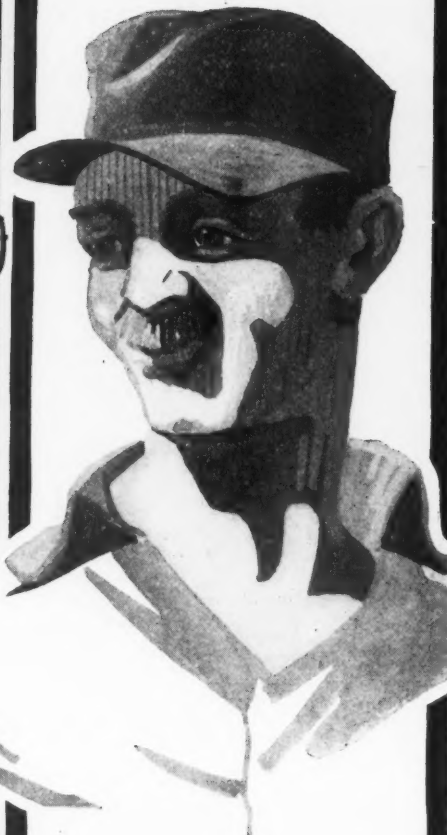
can find the "PERFECTION" at any established hardware store; or you can write direct to factory. Just enclose \$1.00 and they will mail you one promptly.

Mention Your Hardware Dealer's Name

**Modern Utilities Company**

417 Vaughn Street

HARRISBURG, PA.



## THE CAMPBELL MORTISER

is just the machine Enterprising Builders have been waiting for.

It makes a perfect mortise for any size lock or tenon,  $1\frac{1}{2}$ " to 6" long, any depth to  $3\frac{3}{4}$ ", with any size bit  $\frac{1}{4}$ " to 1".

Every movement of the bit is absolutely accurate. It operates automatically and locks itself at the finish of each movement for which it has been set, thus preventing the excess travel of the bit. Soft or hard spots in the wood do not affect the accurate operation of the bit.

Any apprentice can do mortising better and faster with the help of the Campbell Mortiser than an experienced carpenter can do with a brace and bit.

It is simple, dependable and easily operated. Contractors and Builders will find that it saves them time and money.

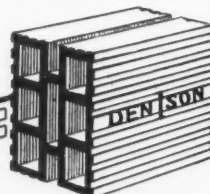
Write us today for complete information, there are so many good things we want to tell you about the Campbell Mortiser.

We are selling the Campbell Mortiser to responsible Builders on trial, we have that much confidence in efficiency of our machine.

Write us today

**Enterprise Mortising Machine Co.** 699 Grove Street  
Columbus, Ohio

Denison Load Bearing Tile No. 47. Easily laid—each tile 4 brick courses high.



Double wall. Corner, jamb and fractional tile at same basic price.

## Look for the Name

YOU are known by the houses you build. Your reputation and future business depend on the satisfaction you give in the buildings you put up now. You can insure the best results if you look for the name **Denison** on the hollow tile building blocks you use.

## Denison Hollow Building Tile

Our thirty years' experience enables us to know your needs and to supply them. Make your future business secure by using Denison Tile. The quality is uniformly good. Write for further information and details of construction.

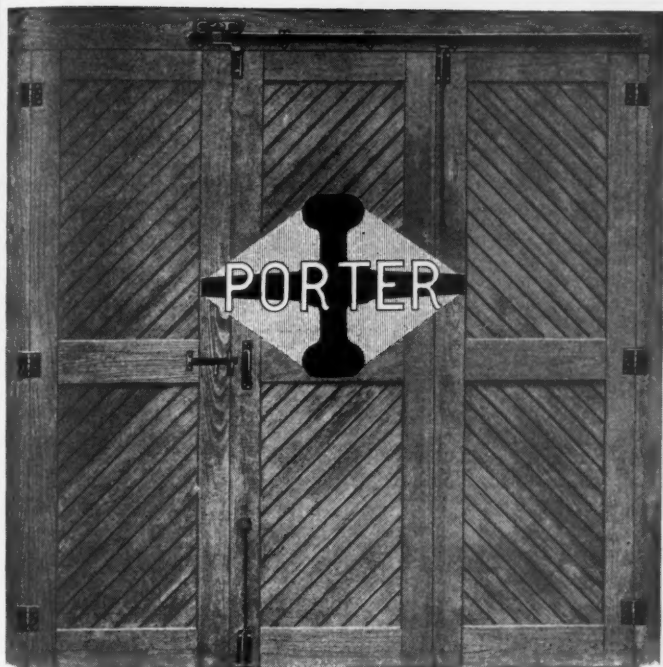
**Mason City Brick & Tile Co.**

900 Eighth Street, Mason City, Iowa

Largest Manufacturers of Clay Products in The World

Sold by Best Lumber Dealers Everywhere





## For the Garage Make It "The Straight-Away"

And you have settled—right in the specifications—all the garage door problems of your client. Because:

The *straight track* makes possible the *reduction of friction* to zero.

The *straight track* permits *space-saving* folding-sliding doors, *opening inwardly*.

The *straight track* does away with the *extra labor* and *extra cost* of the extra supporting arm required by a curved track.

And only with the *offset-hinge* door hanger—exclusively a Porter product—is the *curveless*, *springless*, *sagless*, *frictionless* door hanger possible.

The *Straight-away* provides perfect fit of doors against jamb and weather strip—adjustable, if need arise, because of slotted holes—storm-proof and proof against blocking by ice and snow.



## STRAIGHT-AWAY

### No Sag'

## Garage Door Track & Hanger

The *Straight-away* set is made primarily for three standard doors—"2-foot-8 by 8"—but it will do just as well for any three doors specified. It requires no expert help in installing.

It's a complete outfit: 6 feet (or more) of track, tandem-truck hanger, chain-bolts, latches, door pulls, hinges, screws, etc.

Specify "Straight-away" and you're sure of a satisfied patron—the Porter guarantee backs you and him in a full pledge of satisfaction.

**J. E. PORTER COMPANY**  
475 Guion Street      Ottawa, Illinois 52



**MAGIC**   
TRADE MARK

**NEEDS NO  
WATER,  
NO  
SEWER**

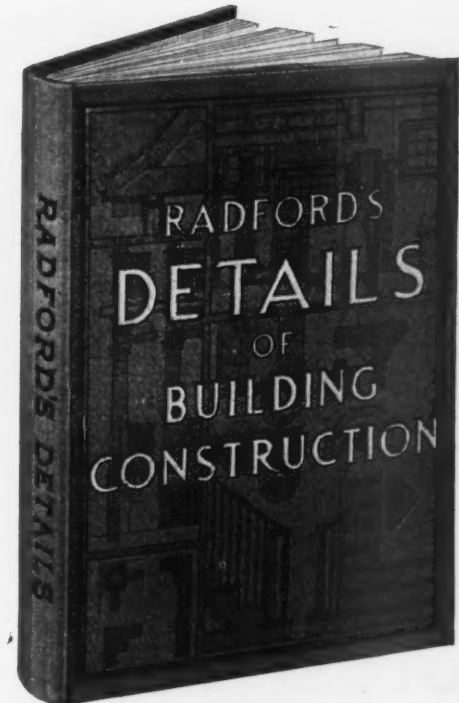
## Chemical Closet

### Set it up in 30 Minutes

**C**ARPENTERS and contractors can make big money the year round by selling and installing *Magic* sanitary chemical inside toilets. They need no water or sewer connections. They are operated by chemicals only, keeping the toilet sterilized at all times. The *Magic* can be placed in a bedroom, closet or bathroom. Enjoy all the comforts of city homes. Keep out of the cold, rain, snow and wind. Avoid exposure to the weather.

Write to the address below for their liberal money-making proposition to carpenters and builders. You run no risk. We guarantee absolute satisfaction and refund your money after thirty days' trial if you are not pleased and contented.

**MAGIC CHEMICAL CLOSET  
& STAMPING CO., Inc.**  
MANISTEE, MICH.



**RADFORD'S  
DETAILS  
OF  
BUILDING  
CONSTRUCTION**

A complete manual of building practice, as applied to carpentry, construction and the use of millwork. It is a remarkable collection of full-page plates, accurately drawn and reproduced to exact scale, showing clearly every detail of modern building construction and finish.

**Price, \$1.00, Postpaid**

**American Builder, Chicago, Ill.**





## **"BARCREST" Quality Shingles**

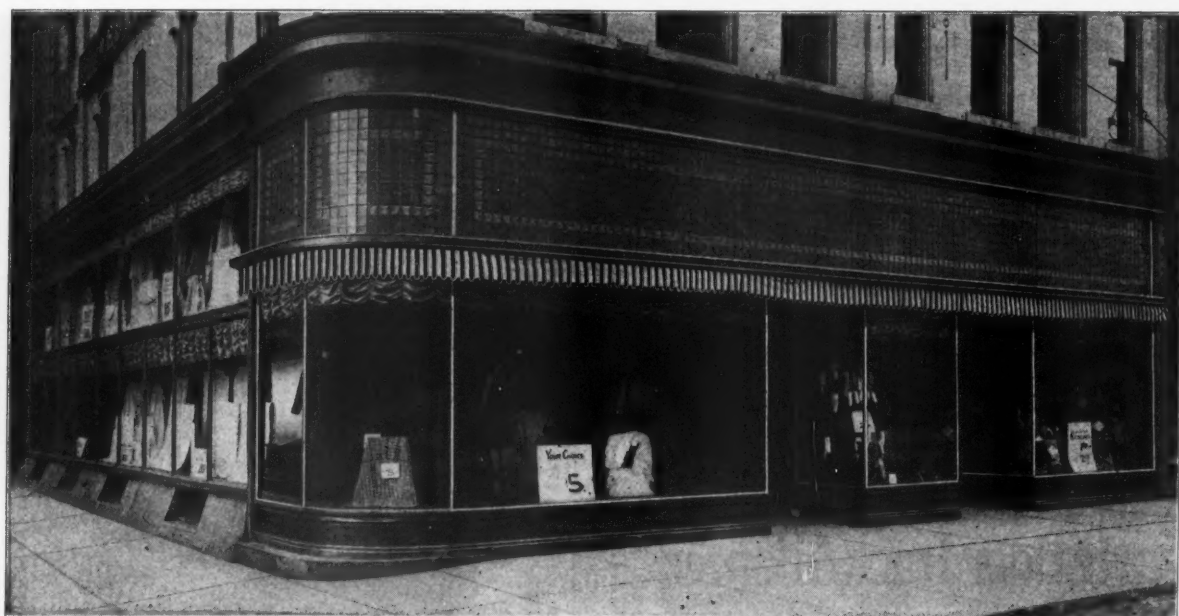
**A Complete Product, Shingles, Labor and Color Effect**

Fine shingles of uniform quality play a most vital part in Building. In the small house or bungalow, everything depends on the quality of shingles used.

The "Barcrest" shingles are sawn from the finest live cedar—sorted into 12 grades—sizes 16", 18", 24" in length. They may be had in any of our twenty beautiful shades or any special color you desire. If you are looking for shingles that will help you get business and keep it, write for information about "Barcrest" Quality Shingles. *Write for roofing suggestions, color samples and catalog.*

**H. S. BARBER CRE-SOTE STAINED SHINGLE CO.**

173-193 Beaufait Avenue, Detroit, Michigan

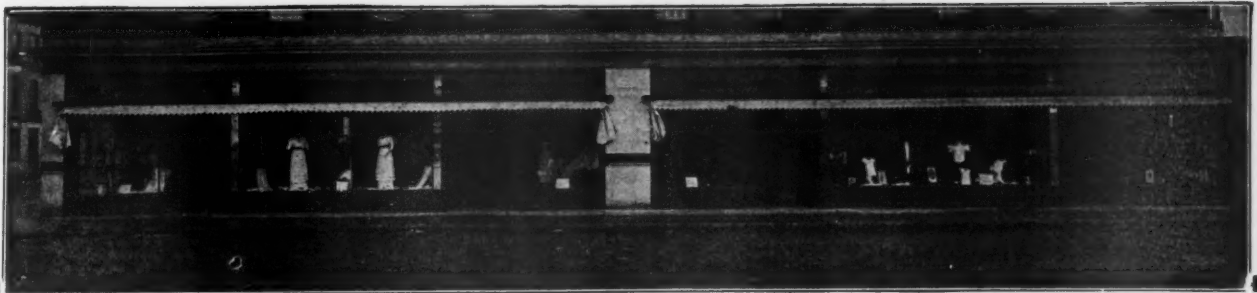


## **COULSON STORE FRONTS** INSURE UNUSUAL PROFITS TO CONTRACTORS

The contractor, who sold and installed this front, made a handsome profit; the owner of this store is not only satisfied, but very grateful because the increase in his business has more than convinced him of Coulson value.

**Get Busy** Look around; there are hundreds of old stores in your district that need new fronts; isn't it time you went after them? Our illustrated catalogs and prices are waiting for you; they will show you how to make more money and win more business friends. A postal will bring full particulars—**Write today!**

**THE J. W. COULSON COMPANY 99 W. Spring Street, Columbus, Ohio**



## Selling Daylight is Profitable Business

Every old store front in your city is your prospect for new business. Don't wait for it to come—go and get it. Show the owner the profit in better trade from a new front. Show him the savings in artificial light—the improved interior appearance of his store if he has you install!

### 3-WAY PRISM TRANSOMS

3-Way Prism Transoms at but a fraction more cost than plate glass and no more than fancy glass—put daylight into every corner of the store.

They banish artificial lights in the day time—they make the store so much more cheerful and inviting that business improves. And the installation cost is final cost. Daylight in a store pays big dividends.

3-Way Prism Transoms are made of 4-inch pressed tile set in

fine metal, full coppered to prevent corrosion. They are weather tight and are very ornamental in appearance. If desired, firm name can be worked into the panel.

Made with or without swinging ventilators as ordered.

3-Way Prism Tile are accurate in their angles to give greatest lighting value. Made of the famous Lazalite glass, they will not turn pink as does the ordinary sheet prism glass cut in squares.

*Write for prices, giving sketch of any job you have in hand.  
Sold by all glass jobbers.*

**AMERICAN 3-WAY PRISM COMPANY, 1307 South 55th Street, CICERO, ILLINOIS**

*Makers of Sidewalk Lights—Loose or in Factory Made Slabs.*

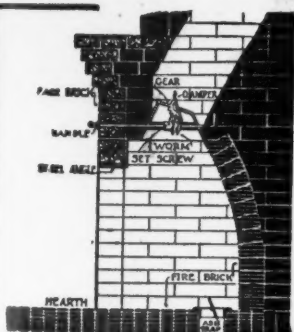


## The Bathroom

The modern bathrooms of today are not complete without the installation of "White-Steel" sanitary medicine cabinets, mirror fixtures and fittings. Although of the highest quality the cost is no more than that for ordinary equipment. We have supplied "White-Steel" fixtures for thousands of the most prominent apartment house, private residence, and hotel projects, among the larger installations being the Hotel Pennsylvania (2500 bathrooms) and the Hotel Commodore (2200 bathrooms), both of New York City.

Send for our Black & White catalog. Our prices will interest you.

**"White-Steel" Sanitary Furniture Company**  
Dept. K. GRAND RAPIDS, MICHIGAN



**Stover Mfg. & Engine Co.**  
Freeport, Illinois

## Build the Fireplace Right

Don't try to reduce the cost by leaving out a good damper. It results in an expensive fireplace to operate and allows rain, wind, birds, and other objectionable things to enter the room when the fireplace is not in use.

Stover Dampers support the brick work, form a smooth throat, regulate the draft perfectly, and reduce the labor cost of erecting fireplaces.

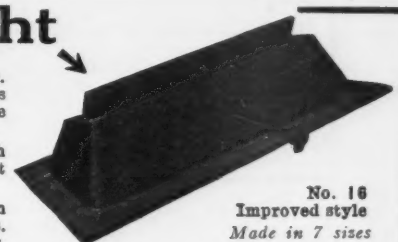
The price is low enough so a Stover Damper can be used in every fireplace. Made in several styles for all size openings. The Improved style shown above is one of the most popular.

Send for catalog No. 1740 showing our fireplace fixtures and giving information as to the best fireplace construction.

We also make wind mills, feed mills, gasoline engines, hinges, pulleys, saw vises, latches, sink brackets, and other hardware.

**Stover Mfg. & Engine Co., 725 East St., Freeport, Ill.**  
Send us Catalog 1740.

Name ..... Business .....  
City ..... State .....



No. 16  
Improved style  
Made in 7 sizes

## Real Wall BOARD

The **only** wall board which is built with a core of kiln-dried wood slats is



Trade Mark Registered, U. S. Patent Office, No. 94745

It solves the present construction problem—the need for making quick, yet permanent, peace-time re-adjustments.

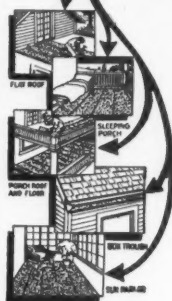
It is the modern wall lining with strength, durability, moisture-proofness, decorative adaptability, non-warping, non-shrinking qualities. When buying look for the wood core and the name "Compo-Board" printed upon it.

Interesting Booklet and Sample  
Sent Free Upon Request.

**The Compo-Board Co.**

5777 Lyndale Avenue North,  
MINNEAPOLIS, - MINN.

Where **CONSERVATION**  
Should be Used



**Economical  
Serviceable  
Artistic and  
Profitable**

The ideal material to use wherever a flat surface is to be covered or where the pitch is less than 4" to the foot.

Costs very little.

Is easy and inexpensive to lay.

Makes a neat, smooth, durable surface.

Will not leak, rot, stretch or shrink.

Send for booklet "Roofing Facts and Figures"

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GEO. B. CARPENTER & CO., 430-440 North Wells St

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WATERHOUSE-WILCOX CO., San Francisco—Los Angeles

QUICK ACTING *The Taylor* SELF LOCKING

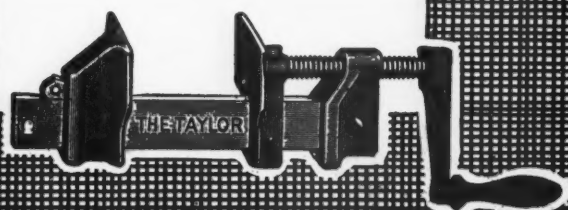
## Clamps

An Investment  
Not an Expense

The quickest and strongest clamps made. That's why they're the standard in U. S. Government Works and in such concerns as General Electric Co., Singer Sewing Machine Co., Victor Talking Machine Co., etc.

We can **PROVE** it in your  
own shop. Write today.

**James L. Taylor Mfg. Co.**  
Poughkeepsie, N. Y.



## THREE IN ONE LIGHTNING RODS

for the *Burkett* SYSTEM make are backed by a half century of successful business and a guarantee, ASSURING ABSOLUTE PROTECTION on EVERY INSTALLATION.

The illustration shows you definitely the construction of BURKETT RODS.

Around the tape are closely woven a series of soft copper strands. Each strand is a surface conductor and in contact with the spiral tape core. This method of construction forms a



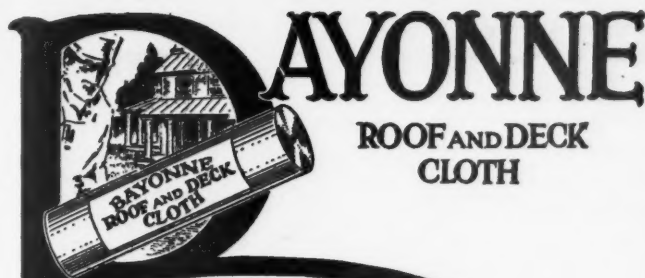
PERFECT Tube. Convince your prospective customer that BURKETT RODS are the BEST he can buy.

We still have some exceptional openings in Big Paying territory for good live Builders.

IT WILL PAY YOU TO WRITE US TODAY.

**BURKETT LIGHTNING ROD CO.**  
FREMONT, OHIO





# BAYONNE

ROOF AND DECK  
CLOTH

## Boyle's Bayonne Roof and Deck Cloth

will always hold first place as a roof and floor covering.

It has proved itself in thousands of cases as the best material with which to cover the floors or roofs of porches, sun parlors, conservatories, etc., and as a covering for a low pitched or flat roof it has no equal. These statements are based on testimonials sent us by carpenters and builders who have used BAYONNE for years.

### Bayonne Roof and Deck Cloth

is guaranteed waterproof and this guarantee is backed by a manufacturing experience of 60 years; it will not crack or peel and it is laid on dry boards and painted after it is laid.

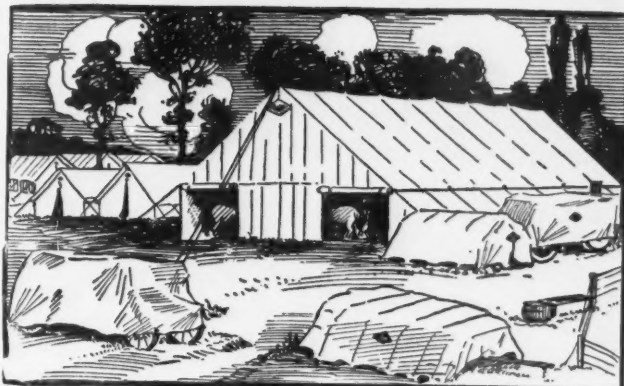
Send for price list and directions for laying

**JOHN BOYLE & COMPANY, Inc.**

112 Duane St.—New York—70-72 Reade St.

Est. 1860 Branch House: St. Louis, Mo.

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The Baker  
Design  
is the  
Quality Sign



Baker  
Construction  
Resists  
Destruction

Tents that turn the Rain. Paulins that really protect your machinery and material. Waterproofing that WATERPROOFS.

Quick delivery on anything you want.

Samples and catalog sent on request. Write today.

**BAKER & LOCKWOOD — "The Big Tent House"**

BROOKLYN, N. Y.  
473 Kent Avenue

KANSAS CITY, MO.  
7th and Wyandotte

## PLASTERGON WALL-BOARD

(See how this 10-foot panel stands straight without bending! Send for actual photo.)

### DO YOU BUILDERS KNOW

That by using this scientifically sized and cured waterproof wall board, you not only save time in covering wall space, and eliminate all the delay, expense, and muss of the Plasterer, but you are enabled to finish your building far more satisfactorily—and with individuality and novelty in color and design effects. In addition to these advantages it enables you to realize a handsome profit than you can possibly enjoy with any other wall covering that can boast one-half as much quality.

### There Is But One "Plastergon"

It is composed of the choicest Northern Spruce fibre; each board is then carefully seasoned and cured in our plant; and last, it is individually treated and every pore sealed by a scientific process of sizing—(sheds water like a duck's back). That is the reason why it resists all atmospheric conditions, though it be nailed upon green studding there can be no trouble—only satisfaction—endurance—beauty.

Samples and our "Contractors' Practical Working Guide" sent free. Send the name of your Lumber or Builders' Supply Dealer. Write today.

**Plastergon Wall Board Company**

Manufacturers of the  
"Quality" Board—Plastergon

Dept. A.

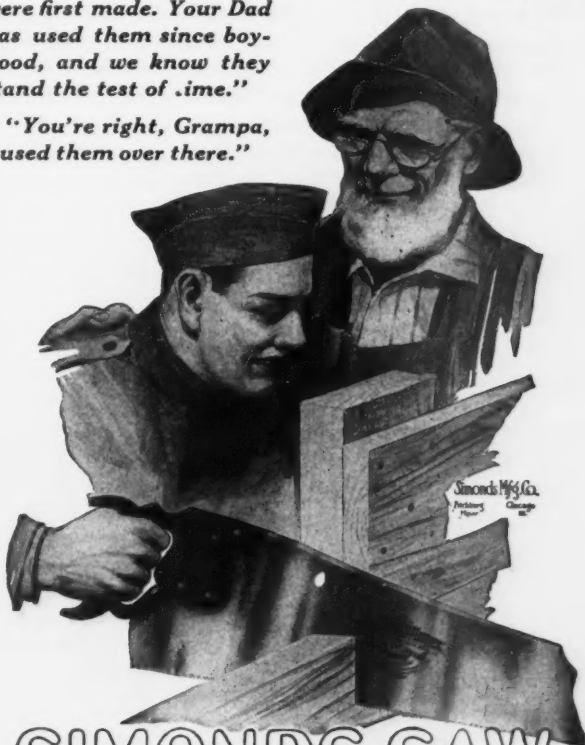
BUFFALO, N. Y.



## A SIMONDS CONVERSATION

"Son, it's a great saw; I've used them since they were first made. Your Dad has used them since boyhood, and we know they stand the test of time."

"You're right, Grampa, I used them over there."



# SIMONDS SAW

(PRONOUNCED-SI-MONDS)



*Specify* **The HERRICK**

**Outside Icing Refrigerator**

On All Your Buildings

No ice is needed in Fall or Winter. Filled from the outside in Summer. Progressive builders put their Refrigerator problems up to us.

**OUR FREE PLANS**

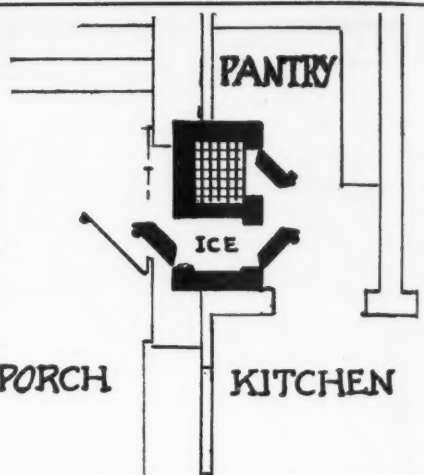
will be sent to you on request. Build up your reputation by suggesting and specifying the

**Herrick Refrigerator**

scientifically constructed. Assures perfect air circulation. Keeps foods clean and fresh. The Herrick requires no ice in cool weather.

*Write for free plans and catalog*

**HERRICK REFRIGERATOR CO.**  
WATERLOO, IOWA



**Fiberlic**

Wall  
Board

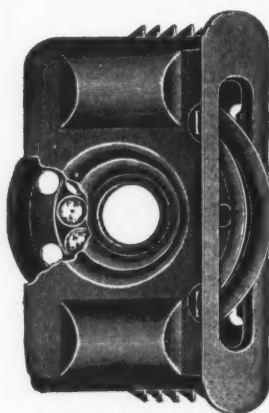
**Fiberlic**

Wood Grain  
Panels

The material from which it is made, the fact that the pulp is chemically cleansed and that the fibre lengths give the finished product that natural reinforcement that is lacking in ground wood boards, is in itself a guarantee of the superiority of Fiberlic from strong, permanent, economical and sanitary construction.

**McAndrews & Forbes Company**

200 Fifth Avenue, New York City  
Factory: Camden, N. J.



No. 10 Ball Bearing

**"Grand Rapids"**

**Ball Bearing  
ALL STEEL  
Sash Pulleys**

**Fasten Automatically  
No Nails—No Screws  
Just Bore Four Holes**

The automatic saw tooth fastening feature and the simple and easily made mortise will save in labor enough to pay for the pulleys.

The bearings contain eleven  $\frac{1}{4}$ -inch Solid Steel Balls running in lubricant, insuring a noiseless, easy running wheel under any load.

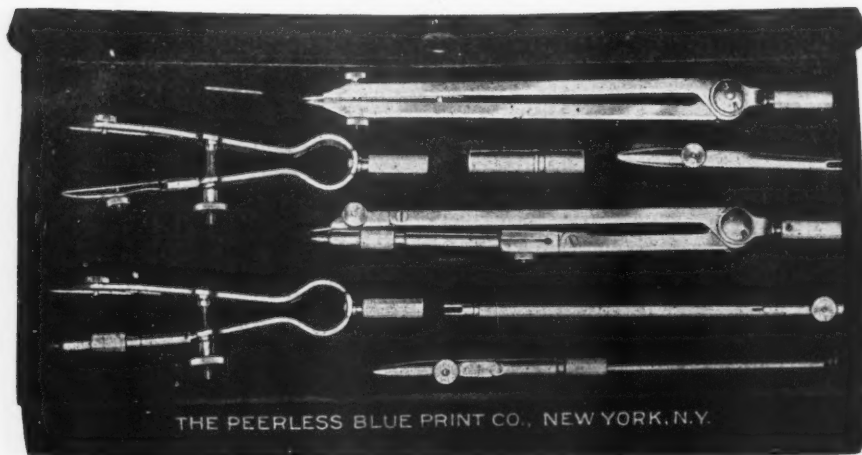
**NOISELESS—EVERLASTING**  
*Write for FREE Samples*

Fifty Different Styles

**Grand Rapids Hardware Co.**

Manufacturers

158 Eleventh Street - Grand Rapids, Mich.



THE PEERLESS BLUE PRINT CO., NEW YORK, N.Y.

No. 450-B—Made in U. S. A., contains:  $5\frac{1}{2}$  in. Compass,  $5\frac{1}{2}$  in. Divider, 4 in. Bow Pen,  $4\frac{3}{4}$  in. Ruling Pen, Lead Case, Folding Pocket Book Case.

**Price per set, \$15.00 net, postpaid**

No. 450-B Drawing Instruments are made to meet the demand for a high-grade instrument at a reasonably low price. They are accurate, strong and dependable and should, for ordinary drafting-room requirements, give efficient service for years. They are polished to a point where all surface imperfections or flaws would become immediately apparent.

**THE PEERLESS BLUE PRINT CO.**

Blue Prints and Drawing Materials

341-347 Fifth Avenue, Cor. 34th Street  
Opposite Waldorf Astoria NEW YORK



### Public Garages

Do not let the construction of the modern garage worry you. Our garage department will relieve you of these cares.

### Steel Roof Trusses

We will submit designs and prices free of charge. Give dimensions of building, style and pitch of roof and kind of roofing.

### Steel Sash

Fireproof and giving plenty of light and ventilation are especially adapted for use in garages. We can ship promptly from stock.

### Skylights and Roof Ventilators

Non-leaking metal skylight frames and standard types of roof ventilators can be supplied promptly.

### Show Windows and Doors

Our specialty is the construction of attractive store fronts. Our garage fronts are standard everywhere.

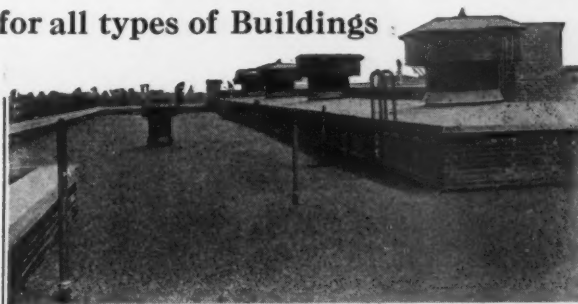
Write for Catalog

**George L. Mesker & Company**

Complete Store Fronts

EVANSVILLE, INDIANA

Efficient and Economical Ventilation  
for all types of Buildings



## "Star" Ventilators

(Patented)

THE oxygen in fresh air is the primary support of life and nothing can compensate for its absence. It is futile to expect fresh and stale air to pass out simultaneously. The idea is opposed to all natural laws.

"Star" Ventilators will solve your ventilating problems in an efficient and satisfactory manner. The many thousands in use on buildings of all descriptions attest their efficiency.

Write to Department 16 for details.

**MERCHANT & EVANS Co.**

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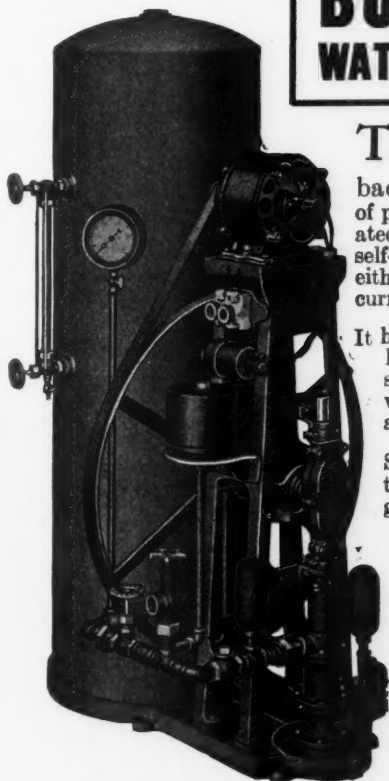
CLEVELAND

KANSAS CITY



EQUIP THE HOMES YOU BUILD WITH

## BUCKEYE WATER SYSTEMS



THE Buckeye Electric House Pump is backed by forty years of pump success. It is operated automatically and is self-oiled. Equipped with either alternating or direct current motor, as required.

It has a capacity of 180 gallons per hour, which is sufficient to supply the water demand in almost any home.

Shipped complete ready to install; this insures a good substantial profit to the Builder or Contractor.

Write Today for  
Details and Prices

**MAST, FOOS  
& CO.**

SPRINGFIELD, OHIO

Department K

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(For Everlasting Economy)

Write us about  
how to increase  
your business.  
We can tell you  
something that  
means money.

OAK FLOORING  
MANUFACTURERS' ASSN.

1000 Ashland Block:

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## ARTISTIC HOMES

A book of 280 (8 x 11 inch) pages showing perspective views and floor plans of 250 artistic modern homes. A large variety of designs are given so as to meet the taste of the majority of home builders. There are artistic houses for people of moderate means and others for the more wealthy, but in every case the design is made with reference to comfort and economy.

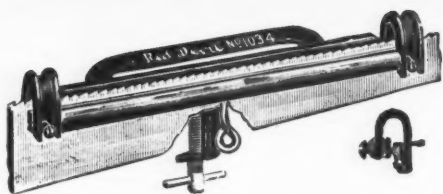
Every design shown has been made by best architects in the world, who have made a study of home architecture and that alone.

**Price \$1.00 Postpaid**

**American Builder**

1827 to 1833 Prairie Avenue, Chicago, Ill.

## TRADE MARK Red Devil Tools



### You Should Have This Saw Vise in Your Tool Box

"Red Devil" Improved Noiseless Saw Vise clamps to board or bench and takes saws of all thicknesses. Its rubber jaws make it practically noiseless.

If you have been accustomed to filing your saws in an ordinary bench vise you'll be surprised at the difference in the ease with which you can put edge and set to the teeth when using "Red Devil" Vise.

Ask your dealer to show you this handy tool. If he hasn't it in stock send his name and \$1.50 direct.

**SMITH & HEMENWAY CO., Inc.**

106 Coit Street

IRVINGTON, N. J.

"Red Devil" is the Expert Mechanic's guide to Known Quality in Pliers, Electricians' Tools, Hack Saw Frames and Blades, Auger Bits, Chain Drills and other Hand Tools, all of a class with "Red Devil" Glass Cutters, the biggest sellers in the world

## CRESCENT

### ARE YOU PROGRESSIVE?

or, are you limited by clinging to the inadequate machinery and methods of yesterday?

Do you know what the installation of a "Crescent Universal Woodworker" in your shop would mean, with all its mechanical perfection and efficient short-cuts; with its time and labor-saving possibilities? Do you know its unquestioned ability to stand the wear and tear of hard usage 365 days every year for many profitable years?

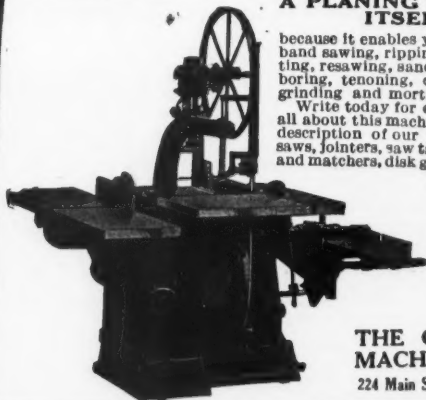
But more important still, do you know how many men owe the greater portion of success to the unrivaled performance and service of the "Crescent"?

#### A PLANING MILL IN ITSELF

because it enables you to do your band sawing, ripping, cross cutting, resawing, sanding, jointing, boring, tenoning, daddling, knife grinding and mortising.

Write today for catalog telling all about this machine and giving description of our line of band saws, jointers, saw tables, planers, and matchers, disk grinders, swing

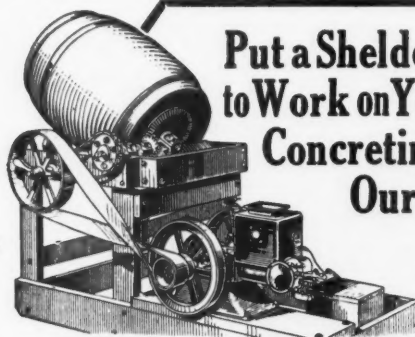
saw, post borer, shapers, variety wood workers, hollow chisel mortiser, table cut-off saw.



**THE CRESCENT MACHINE CO.**

224 Main St., Leetonia, O.

### Put a Sheldon Mixer to Work on Your Next Concreting Job At Our Risk



You don't have to take our word for a single claim or statement made for the Sheldon Mixer. Send for the style Sheldon you need today. Give it the toughest test you can think of.

Keep track of the amount and kind of work it will do. Keep track of what it will save you over hand mixing. Then at the end of thirty days if it does not sell itself to you on its merits, ship it back. We know it will convince you, that's why we take all the risk. Accept this offer today.

**Don't Pay \$200 to \$500 for a Mixer**

The Sheldon will do just as good work at only a fraction of the cost. Mixes 3 cu. ft. to a batch. Will keep one to six men busy. Pays for itself on the first small job. Thousands in use by contractors for the last five years.

**Write for Catalog and Trial Order Blank Today**

The illustrated catalog tells you a lot about concrete work and shows all styles and prices of Sheldon Mixers. You can't afford to pass by this opportunity to get a Sheldon Mixer and cash in on the extra profits that you can make on concrete work.



Get your order in at once. Prepare now for the Big Building boom.

Write today, a postal will do. Address

**Sheldon Mfg. Company**  
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## PORTFOLIO of HOMES



Anyone who contemplates building or remodelling will be interested in our portfolio of large photographs showing fifty interesting homes, both large and small, designed by prominent architects of established reputation.

### "CREO-DIPT" STAINED SHINGLED HOMES

If you are ready to consider roof and sidewall material, ask for sample color pads and Descriptive Catalog.

Address Photo Department

CREO-DIPT CO., Inc., No. Tonawanda, N. Y.

## TROUBLE SAVERS



The "Trouble Savers" steel scaffolds will save enough time, lumber, and nails on the first job to pay for themselves. They are safer, too! And because they are light and fold compactly, they are convenient to handle.

### MR. BUILDER:—

This scaffold can be used in all kinds of construction work where scaffolding is necessary;—upon the first trial it is sure to win your satisfaction, as it has thousands of others throughout the country.

Send for circular illustrating and describing "Trouble Savers."

**THE STEEL SCAFFOLDING CO.**  
EVANSVILLE, IND.

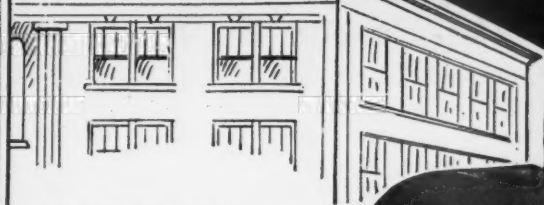
## Pullman Unit Sash Balance

Cost Less than Cords, Pulleys and Weights.

Labor Saving in Installation.

Every Balance Guaranteed  
for Ten Years.

HIGH SCHOOL.



PULLMAN Unit Sash Balances are especially adapted for use in School Buildings, Residences, and Factories, or wherever a smooth running, unbreakable, and practically noiseless Sash Balance is required. The Pullman UNIT Sash Balance is made entirely of steel. Over six million in use.

Hundreds of School Buildings throughout the country are entirely equipped with the Pullman UNIT Sash Balance and are giving entire satisfaction.

Pullman UNIT Sash Balances are approved by Fire Underwriters' laboratories for Fire Proof Buildings.

Write today for illustrated catalog with blue prints showing how easy to install the Pullman UNIT Sash Balances.

**PULLMAN MFG. CO.**

10 Industrial St.,

Rochester, N. Y.

**Pullmanize Your Windows**

## Mr. Contractor.

More Heat  
Less Trouble  
Less Expense

is the verdict of hundreds, yes, thousands, of satisfied users of Standard Clean-Air Systems. Can be installed by one ordinary workman in a single day. Carpenters and Contractors find it a great proposition for a side line. (Quick sales; big profits.)

Washes Air  
and Purifies It



**STANDARD  
HEATING CO.**

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CHICAGO

Mail the coupon.  
It will open up  
new means of  
profits.

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I am interested in your proposition.  
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### The Stucco Beautiful

*Beautiful! Artistic! Distinctive!* These words describe the outward appearance of Kragstone. That is why it is rapidly gaining favor as the most popular exterior covering on the market.

*Strength!* Kragstone is 300% stronger than cement stucco. Its elasticity is *wonderful*. It does not check or crack. Bonds perfectly to almost any surface. Easy to apply.

**KRAGSTONE**  
AMERICAN MAGNESIA PRODUCTS CO. CHICAGO  
**STUCCO**



Best made stucco obtainable. Many colors and finishes are possible. Simple directions and personal supervision give perfect results.

Write for illustrated book, prices and figures. *Free to all builders.*

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135 W. Washington St. Chicago

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THE door that bears a Yale Door Knocker in keeping with its architectural style, assumes an attractive distinction, and provides a practical means of attracting attention.

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Chicago Office: 77 East Lake Street

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### Go Carefully Into the Comparative Cost of Sheldon's Slates and Artificial Roofings

You will find that you can have an attractive roof of

### SHELDON'S SLATES

at the cost of a flimsy artificial roof. And the first cost will be the only cost—there will be no renewing, repairing or repainting.

Ask for Interesting Booklet "The Roof of Eternal Youth" Fully Describing Sheldon's Slates.

Roofers: You can make money laying Sheldon's Slates. Write.

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DON'T be satisfied to use a short-life roofing material just because it is cheap.

It will cost far more in the end, besides making repairs and replacement a regular annoyance.

Use slate. It will outlast any building. It is real quality—in fact no other roofing material can approach a first-class slate roof, properly applied. It is fire-proof, wear-proof and water-proof.



**VENDOR SLATE CO.**

*Largest Shippers of Roofing Slate in the World*

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# BLACK ROCK BLACK CENTER WALLBOARD

To be sure of exceptional results use this distinctive wallboard. With its moisture-repellant black center, its sealed and sized surface, its all around quality, Black Rock insures uniformly good results. Go to

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**THE BLACK ROCK WALLBOARD COMPANY**  
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**PORTABLE  
FOLDING  
BATH TUB**

## Agents and Contractors Need Wait No Longer

Your opportunity is here. Our portable folding Bath Tub is in great demand throughout the country.

The illustration shows it being let down ready for use. It is made of iron—all white enameled. It has a 12 gallon heater which is heated with either gasoline, gas or kerosene.

We also manufacture Indoor Chemical Closets—which, when considered along with our folding bath tubs, make a combination no rural home should be without.

Write for prices and agency

**Leech Metallic Bath Tub Co.,** Foot of Leib Street, Detroit, Mich.



## The TRIPLE "A" Spring Driven Floor Smoother

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Here is a machine that does the work of six men—one week's work in a single day. Figure the saving.

It has a powerful automatic spring motor that does more than half of the work—adds nothing to the cost of operation, yet doubles the efficiency of the machine. You will need to try this machine to be convinced of its marvelous work performing capacity and the high quality of the work that it does. Every Triple "A" user is an enthusiastic booster. You will want one before long—better write us now and get full particulars.

**TRIPLE "A" MACHINE COMPANY** - 4125 Ravenswood Ave., Chicago



Taken from Actual Photograph

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**CARPENTERS—BUILDERS**

MAKE BIG EXTRA PROFITS WITH

**BARNETT SYSTEM** GUARANTEED Lightning Protection

Why let the big extra profit go to the other man after you have done the hard work erecting the buildings? This easy profit belongs to you. You are the logical man right on the job to install this protection on every building you erect. The owner's confidence in you will make it easy to secure this additional work and profit on the same job. Why not make \$50.00 to \$75.00 per week extra?

Our Rods are in big demand. (no joints) with attractive fixture. work rods the building, and puts profit in your pocket. Money back guarantee with each job. Hundreds of our Carpenter agents began in a small way, now doing a big business. Secure the agency now. Write today for free Catalog, Cable Samples, and Prices.

Made of pure copper endless cable, no rust Easily put on buildings. Two hours extra



Complete set of tools furnished free with first order of 500 feet or more.

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Cheapest Insurance Known



## ALL KINDS OF SKYLIGHTS With Ventilators and Without PUTTYLESS

Skylights  
Single and Double Pitch

Our Skylights are made of 26 gauge open hearth galvanized sheets and have proper ventilation and condensation gutter.

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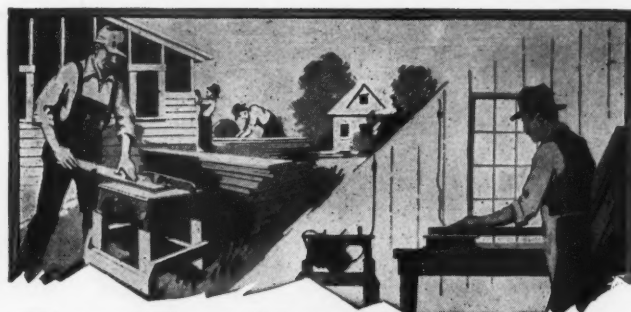


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Milwaukee, Wis.

Branch at Kansas City, Mo.

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**TAKE THE MACHINE TO THE JOB**—save running to and from the bench to the machine, eliminating hand work—speed the job—cut cost—use—

## WALLACE Portable BENCH SAWS, PLANERS and JOINTERS



These machines are handling practically all the work for thousands of contracting and jobbing carpenters, cabinet and pattern makers, mill workers, etc., etc.

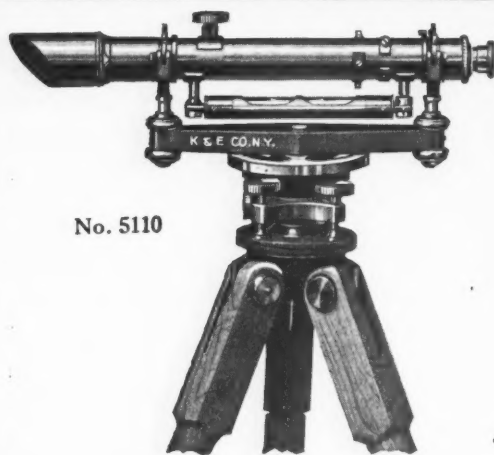
Write for details—it will pay you.

—Try these machines at our expense—

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**O**UR Levels and Transits for Architects, Builders and Contractors meet their most exacting requirements.

K & E Quality is the standard of discriminating buyers.

Send for literature

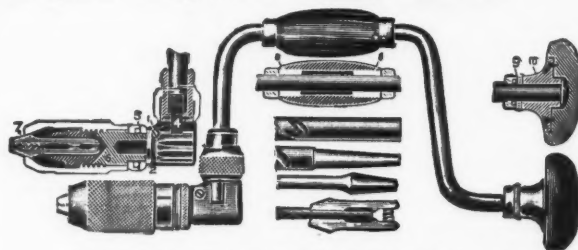
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Drawing Materials • Mathematical and Surveying Instruments • Measuring Tapes



## V & B Patented Ratchet Brace

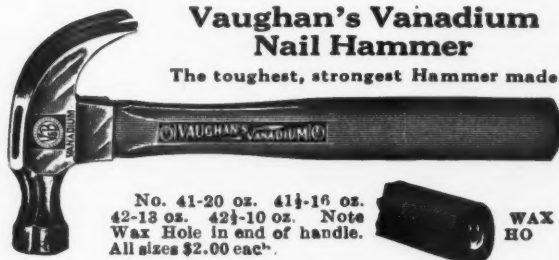
V & B Braces are unique in construction. The chuck cannot work loose, as there is no end screw. Our patented key construction holds the chuck firm. The jaws will hold all styles of bits up to and including one-half inch.



Nickel Plated—Walnut Handles—Ball Bearing Head  
No. 222 Brace. All sizes. 10-in. sweep. \$3.50 each

## Vaughan's Vanadium Nail Hammer

The toughest, strongest Hammer made



No. 41-20 oz. 41½-16 oz.  
42-13 oz. 42½-10 oz. Note  
Wax Hole in end of handle.  
All sizes \$2.00 each.

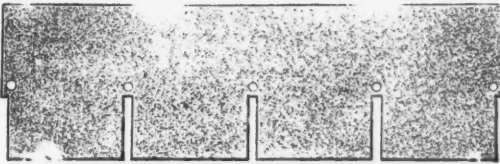
WAX  
HOLE

**Vaughan & Bushnell Mfg. Co.**

Makers of Fine Tools

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## Rex Strip Shingles



"THE SHINGLE OF SHINGLES." No other style of shingle combines so many essential qualities—beauty, durability, economy, adaptability, color variety, and fire protection. They not only enhance the appearance of a building, but they also provide a thoroughly weatherproof roof.

REX STRIP SHINGLES are considerably lower in price than individual asphalt shingles, and there is a saving of 37½% on the nails and the labor of nailing. They are covered by a guarantee of ten years—but they wear much longer—and are approved by the Underwriters' Laboratories.

*Samples and prices will be gladly furnished on request.*



### The Flintkote Company

Asphalt Shingles Prepared Roofing

90 Pearl Street, BOSTON

New York Chicago New Orleans

## MYERS FAULTLESS

No.

20



Mr. Contractor—Mr. Carpenter—Mr. Builder—You know a good door hanger when you see one—you can pick it out of a hundred poor ones without trouble—that's the reason Myers Faultless Door Hangers and Self-Cleaning Track are so widely sold—they have the features and improvements which justify their being chosen first by those who know door hangers—they give the same kind of service, and the carpenter or builder who sells them has satisfied door customers every time. Write us for circular and prices.

For Sliding Doors on any Building Storm, Dirt and Bird Proof. — Self-Cleaning.

F. E. MYERS & BRO. 110 Orange Street ASHLAND, OHIO

## Have You Watched a Blystone in Operation?

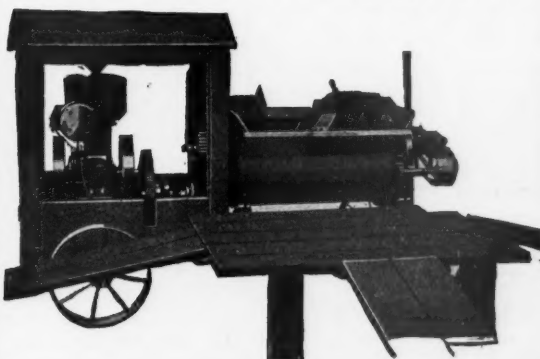
They are unlike any other made. The Patent Reverse Spiral Arrangement of the mixing blades is found only on the Blystone.

With this arrangement the batch is carried from one end of the drum to the other twice with every revolution of the shaft and shoveled over forty-four times each minute. The Blystone mixes successfully concrete, mortar, hardwall or the old-fashioned hair plaster.

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### BLYSTONE MANUFACTURING CO.

419 Carpenter St. Cambridge Springs, Pa.



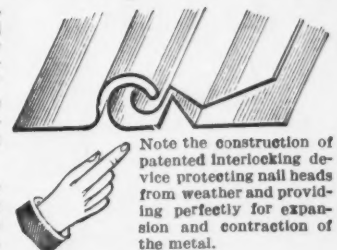
## Build Yourself a Business

Here is a chance to build up an independent, profitable business for yourself right at home. Many of our agents are now devoting their entire time to selling our metal roofing. Others have made big profits simply devoting part of their time to selling and laying our Metal Spanish Tile and other styles of Metal Roofing.

## Edwards' Metal Spanish Tile

Architects are specifying Edwards' Metal Spanish Tile, for they know it will do away with roofing "troubles." Builders like it because of the finished appearance it gives any house on which it is used.

Don't delay, write today for new roofing catalog and special agent's proposition.



Note the construction of patented interlocking device protecting nail heads from weather and providing perfectly for expansion and contraction of the metal.

THE EDWARDS MFG. CO. 401-417 Eggleston Ave. CINCINNATI, OHIO

The World's Largest Manufacturers of Metal Roofing, Metal Shingles, Metal Spanish Tile, Metal Ceilings, Metal Garages, Portable Buildings, Metal Lockers, Rolling Steel Doors, Partitions, etc.

(3)





## Everlasting Stucco

ASBESTONE EVERLASTIC MAGNESITE STUCCO, the wonder of the age, is recognized by the leading authorities in building construction to be the most reliable exterior wall coating yet produced. EVERLASTIC STUCCO can be applied on wood, cement, brick, stone, etc., is non-absorbing, waterproof, fireproof, and will last a lifetime. EVERLASTIC STUCCO is superior to cement stuccos, in that it does not crack or chip. EVERLASTIC STUCCO is the ideal material for old or new buildings, Enduring, Indestructible and artistic.

*Inquiries Solicited, Samples and Prices Free—Write Today*

**Franklyn R. Muller & Co.**

Composition Floors and  
Stucco Manufacturers

**Asbestone**

974 Madison Street  
WAUKEGAN, ILLINOIS

## The *Majestic* Coal Chute

WHEREVER there is a basement you have a prospect for a Majestic Coal Chute. Because the Majestic is a protection, a convenience and an improvement to every foundation.

### SECURE YOUR SHARE OF THE BUSINESS

Being created by the Majestic advertising. Over three million readers are being reached by the Literary Digest, House and Garden, House Beautiful, Country Life in America, Keiths Magazine and other publications.

Add to your profits—cash in on the Majestic. Easily installed in homes already built as well as new homes.

Write for catalog 12G and name of nearest jobber.

**MAJESTIC CO.**

860 Erie St., Huntington, Ind.



## You NEED This Catalogue in Your BUSINESS



COMPLETENESS in a new building is what pleases the owner. Little conveniences in the new home mean satisfied housewives and are the shortest avenue to profitable sales if the house is built for sale.

This catalogue, offered free to inquirers, is a pocket mine of good ideas for builders. Here are some of them:

D-B Fire Place Damper, controlled by means of the poker.

D-B Bottle and Package Receiver, thief-proof, made of cast iron, self-locking.

D-B Garbage Receiver, installed in ground or under porch floor.

D-B Tubular Stanchions and Clothes Posts, besides many other devices.

The Donley Insert for anchoring overhead fixtures is designed to carry the full allowable load of the corresponding bolt.

If you are a dealer, we will furnish you with a quantity of these catalogues to use as your own, with your firm name on the front.

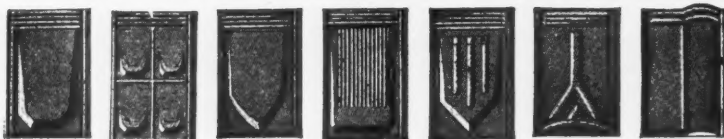
**THE DONLEY BROTHERS COMPANY**

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## WALTER'S & COOPER'S METAL SHINGLES

*The  
Shingles  
That  
Last*



*The  
Shingles  
That  
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The Most Complete Line of Designs

The Best Quality Workmanship and Finish

Made in Painted Tin or Genuine Re-dipped Galvanized Tin

**SOLD AT THE RIGHT PRICE**

May we send you full-size samples and prices?

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JERSEY CITY, N. J.



## A PROPOSITION

And some simple questions that will open your eyes to "Canton Coal Chute" and "Canton Sidewalk Door" profits.

Are you a mechanic, or mechanically inclined? Are you anxious to clean up some easy money during spare time? Do you live in a progressive community where improvements are always in demand?

These are the questions Canton wants you to answer. You will very likely reply "yes" to all three. If so, there is no use of further palaver: just mail a postal for particulars and Canton will put you next.

ACTION'S THE WORD.

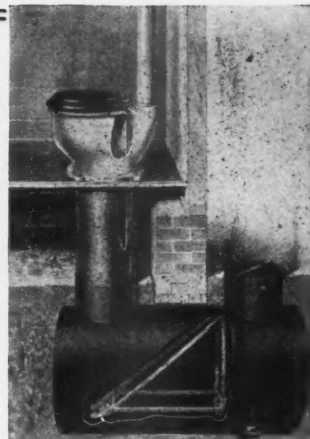
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**CANTON FOUNDRY & MACHINE CO.**  
CANTON, OHIO

## Here's Profitable BUSINESS

The people in your community will readily replace their filthy, disease-spreading out-houses with such a modern convenience as

### The Waterbury **SANITARY SCAUSTIC CLOSET**



It is the kind of modern indoor closet people of country and towns WANT—attractive, convenient, sanitary.

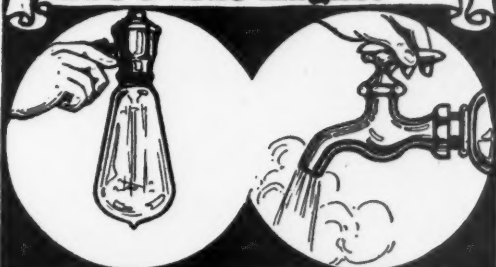
It disinfects the waste; requires no water or sewer; reduces the waste to a thorough semi-liquid, which may be either drained off direct, or pumped out two or three times a year. It affords MODERN closet convenience for homes, schools, churches, factories, and all buildings where water and sewer are not available.

**Contractors** Here's an opportunity for a good volume of business and profit. Show prospective customers the "Waterbury" and they will choose it above all others.

Write today for full information.

**The Waterman-Waterbury Co.**  
Minneapolis, Minnesota

## Electric Light and



## Running Water from one plant

YOUR client's comfort is an asset that grows. It puts gold in your pockets as it increases your reputation for good judgment. You can install in any home—on any farm—the two great conveniences of Electric Light and Running Water from one complete, compact Kewanee System that furnishes both.



**KEWANEE**



## Combination Systems

save money on first cost, last longer, require less maintenance, and give perfect, uninterrupted service year in and year out. There is a Kewanee System to meet the needs of every building.

Running water under strong pressure is always ready for use. Electric Light and power for every purpose are there at the turn of the switch.

Include your clients among the thousands of satisfied users of Kewanee Systems. Our drafting and engineering departments will be glad to cooperate with you. Write for free bulletins on Electric Light, Running Water and Sewage Disposal Systems.

**Kewanee Private Utilities Company**

(Formerly Kewanee Water Supply Co.)

424 South Franklin Street Kewanee, Illinois

## DISEASE!

### Flies Spread Disease

Let in flies and say good-bye to health. No-Sag Screen Doors are an excellent, cheap insurance against such disease.

### ARE YOU INSURED! THAN WHY NOT NOW?

Help protect the health of your clients. Give 'em NO-SAG DOORS and make your client your friend.

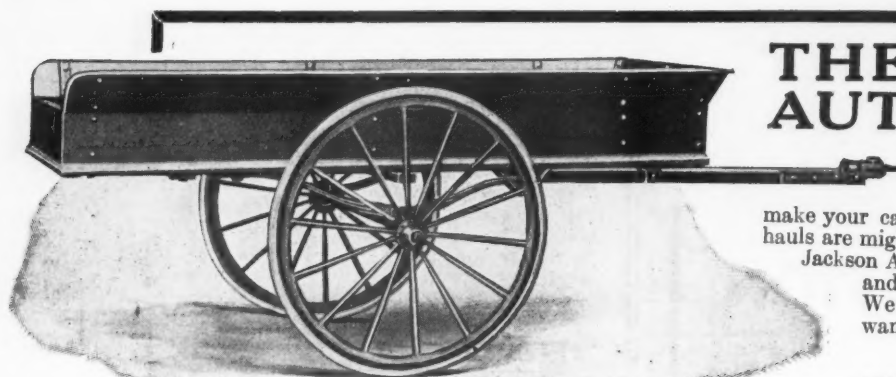
There is none better and we think none so good, as the NO-SAG SCREEN DOOR. They're just that NO-SAG. We build them of Northern Pine and build them strong. They look neat and hang easy.

If you know about them, you're converted. If you don't, write at once for complete information to the

## CADILLAC LUMBER CO.

CADILLAC  
MICHIGAN





## THE JACKSON AUTO TRAILER

For contractors who own a car there can be no better investment than the Jackson Auto Trailer. They make your car a paying investment. Short, quick hauls are mighty important to the busy builders.

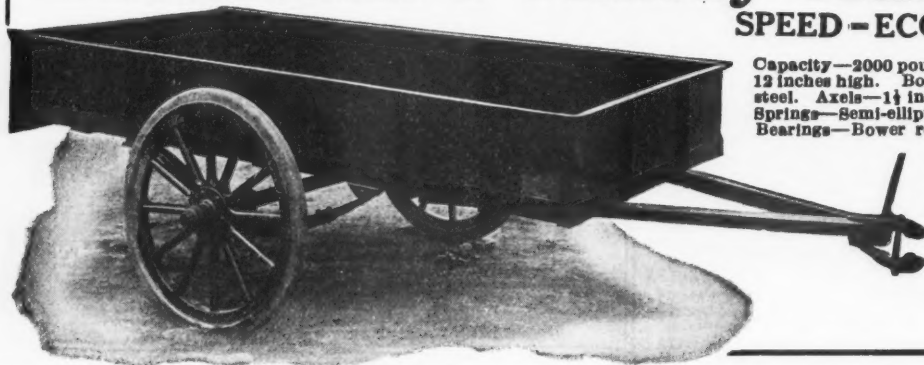
Jackson Auto Trailers are made in many sizes and styles to suit your individual needs. We have just the Trailer you have long wanted.

Write Us Today

**THE MILES MFG. CO.**  
Department 17 JACKSON, MICH.

## Contractor's Handy Auto Trailer

**SPEED - ECONOMY - STRENGTH**

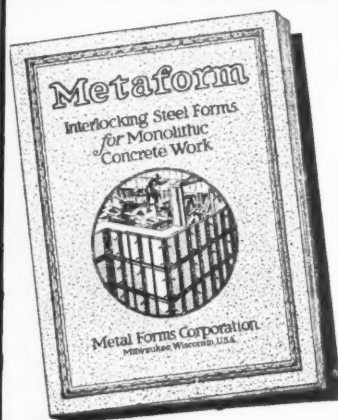


Capacity—2000 pounds. Body—8 feet long, 46 inches wide, 12 inches high. Body and under frame built of open hearth steel. Axels—1½ inch square bed, special high carbon steel. Springs—Semi-elliptic, oil tempered and double heat treated. Bearings—Bower roller. Wheels—1½ inch spoke, artillery type, second growth hickory. Tires—32x2, solid rubber. Weight—534 lbs.

Other models with gates at front; also extension tongue which permits carrying lumber, poles, ladders, etc. 30 feet long.

Write for Catalog C.

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COMPANY  
Albion - - - Pa.



## This Free Book Will Rouse Your Profit Instinct

IT rings with vital values for you—short, direct, square-toed facts and proofs of the quicker production and higher profits that other contractors are enjoying every day with

### Metaform Steel Outfits

Do away with all wood form construction on every type of work. Used over and over again without any repairs. Put up by common labor without chance of error. Small equipments required. Get the book that tells the profit story in full.

**METAL FORMS CORPORATION**  
2223 Booth St., Milwaukee



100 Lafayette St.,  
NEW YORK

**THE JAMES SWAN COMPANY, Seymour, Conn.**



Awarded Medal of  
Honor on  
Mechanics' Tools  
at Panama-Pacific  
Exposition.

**Manufacturers of all kinds of BITS, CHISELS, DRAW KNIVES, GOUGES, GIMLETS, AUGERS, NAIL SETS, SCREW DRIVERS, COUNTER-SINKS, BORING MACHINES and EXPANSIVE BITS.**

Buy only Carpenters' Tools bearing the Trade Mark which stands for Quality.





Another  
reason  
Why  
HUTHER

**DADO  
HEADS**

are better



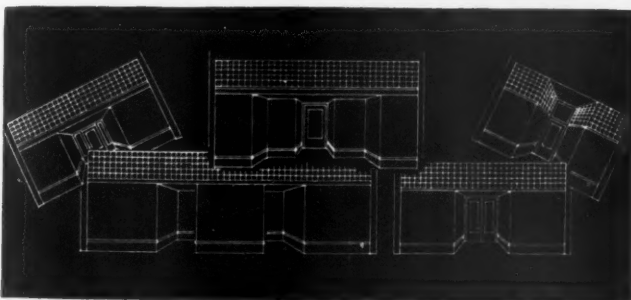
Huthur Brothers were the inventors of their type of Dado Head and were the first to market it. For over 27 years we have been the leading producers of these saws.

This experience has given us the opportunity to study the problems confronting users of Dado Heads and to manufacture one that will meet all these demands.

Send for free illustrated booklet or order a Dado Head on approval. May be returned at our expense if unsatisfactory.

**HUTHER BROS SAW MFG. CO.**  
ROCHESTER, N.Y.

Write for our Catalog



## Contractors' Opportunity

You can make money remodeling store fronts—the opportunity is big in every community. By dealing direct with us in the purchase of store front material, instead of through traveling salesmen, you can make even a greater net profit. "Desco" construction is now better in quality than ever—it is stronger, safer, easier to order, easier to install and better looking. You will find it easy to sell, especially at the lower price. See Sweet's Catalog—pages 477-480—for details, then send for full information with price list and your special discount. Let us help you be the leading store front man in your vicinity.

**Detroit Show Case Co.**  
491 Fort Street, W. Detroit, Michigan

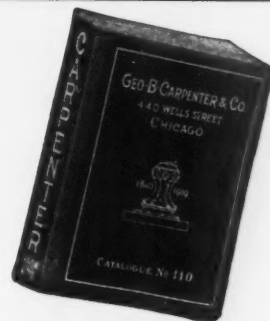
**Desco**  
METAL  
STORE FRONTS



—the Reliability Mixer of the  
**NOT** just a low **Light Mixer** class  
priced Mixer, skimped to keep the price  
down, but a scientifically strong light  
mixer—a dependable producer—built  
in big volume to keep the price down.

4 and 7 cu. ft. capacity mixed concrete—gasoline  
or steam. Standard hopper and low charging  
platform, batch hopper or power charging skip,  
may be equipped with automatic water-meas-  
uring tank, and light duty hoist. Write for  
catalog No. X5

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MILWAUKEE, WIS.



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**A**T your elbow whenever you need it;  
with a handy index leading straight  
to anything you want in equipment.

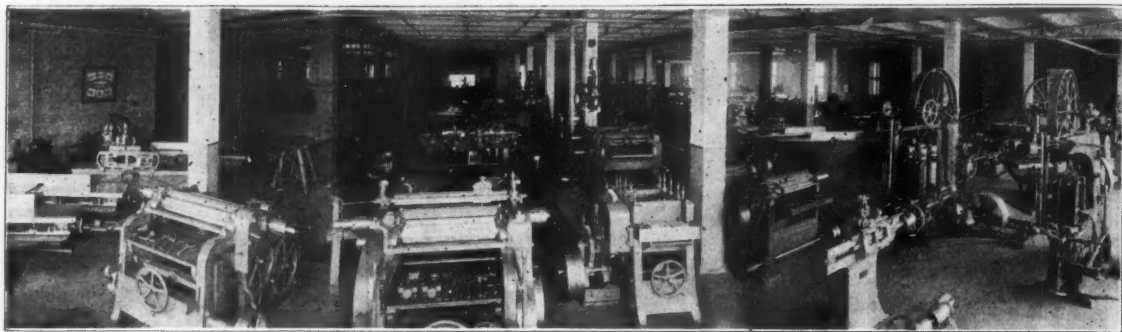
That's what this 1100-page catalog means  
to you; it saves time, effort and money.  
Lists everything you can think of in the  
way of supplies, at prices that are right.

Your copy is ready. Send for it. Address  
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Equipment for Contractors, power plants,  
mills, mines, railroads, steamships, machine  
shops and all forms of industrial activity.

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Write for catalogue showing full line of Wood Working Machinery for Carpenters and Builders. Also Bargains in second hand Machinery.



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**Don't Lay  
Another  
Roof  
Until We  
Send You a**

### Winthrop Tapered Asphalt Shingle

Just ask for a sample shingle. See how tough, how pliable and how durable it is. See how it is made

like a wooden shingle—thick at the butt and thin at the top. See how easy to lay it is. See what a beautiful roof it will make—made in two colors—red and green. Then you will understand why owners want the Winthrop when they know about it.

Winthrop Tapered Asphalt Shingles will enable you to get most of the roofs in your town. They win out with less argument than anything you ever tried to sell, for they look better than wood shingles and they have all the protection of asphalt.



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ASPHALT SHINGLES

Factory: Argo, Ill.

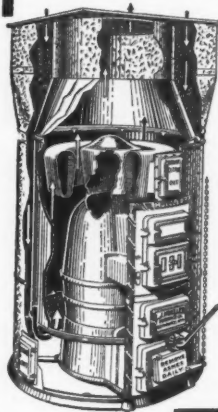
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Many people right in your own community know the advantages of the Mueller Pipeless Furnace through its extensive advertising.

Make the most of this—install the Mueller, the nationally known furnace and a proved success, thoroughly efficient and reliable.

The Mueller is guaranteed to heat the whole house comfortably. It's easy to install, simple to operate. Burns hard or soft coal, lignite, wood, gas or oil. Saves one-third to one-half on fuel.



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Makers of Heating Systems of All Kinds Since 1857

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They have proven their superiority by a most remarkable record of satisfying service.

Their praises rise from the lips of half a million enthusiastic contractors all over the United States.

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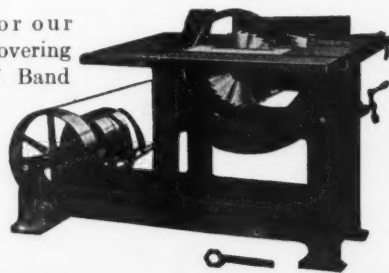
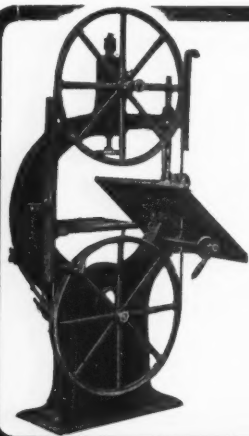
Don't let your competitor take

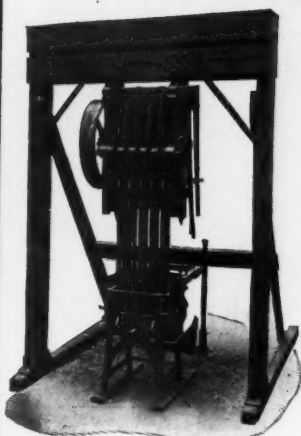
the lead. Equip your shop with Modern Silver machinery and be assured of the utmost wood working machinery efficiency.

Write today for our illustrated catalog covering a complete line of Band Saws, Swing Saws, Saw Tables and Jointers in various sizes and styles.

### THE SILVER MFG. CO.

Box 345, Salem, Ohio



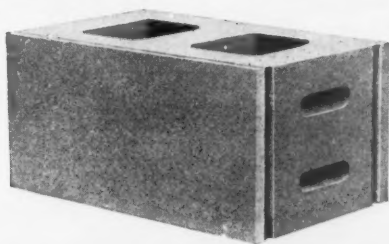
*Ideal***IDEAL**

Concrete Machinery turns out **Good Blocks** quickly.

The Blocks are square, true and well tamped.

Our large stock of face plate patterns permits a variety of face designs.

**The Ideal Concrete Machinery Co.**  
1308 Monmouth Ave. CINCINNATI, OHIO



**Surface Your Floors the  
"American Universal Way"**

**Big Profits and Only a Small Investment**

The "American Universal" of floor surfacing offers you a wonderful opportunity of making money fast.

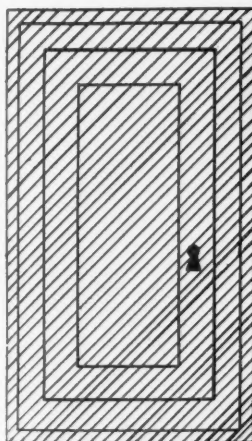
In your neighborhood there are dozens of floors that need refinishing, and dozens of new buildings under erection that have a large floor space for surfacing. The contractors that scrape these floors by hand will make very little profit and the jobs when finished will be very poorly done.

The "American Universal" will surface more floors than four or five men without leaving waves, chatter or vibration marks. It is different from any other kind of surfacing machine.

You can get the business and make a Big profit on each job by writing us for full particulars today.

*Don't pass up this opportunity.*

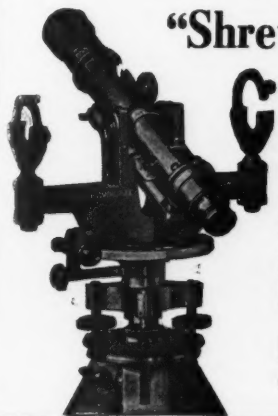
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515 South St. Clair Street TOLEDO, OHIO

**STOCK FIRE PROOF DOORS****METAL AND METAL COVERED**

Standard Sizes in Stock of all Designs

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**"Shrewd Contractors"**

select "WHITE" Convertible Levels because it eliminates guess-work. They know what to expect of these sturdy *dependable* instruments and are *never disappointed*. Model shown here is our latest creation. It covers all phases of building work. Contractors everywhere recognize it as *standard equipment*. Get fully posted. Send for circular and trial offer today.

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The Frank low price mixer will produce a full batch a minute. The mixing is always in plain sight and the machine is simple, nothing to get out of order.

Sold in 3, 5 and 7 foot sizes. Every mixer guaranteed.

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Inside View, Showing Door for Unloading



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# Did You Ever Lose a Job

because you didn't know  
how to figure on a

## Water System?

Pipe to rooms.



Pipe to well or cistern.

The Paul Systems of Water Supply, which are "as easy to install as a hand pump," have grown to be the great favorite with thousands of builders, because we make everything as plain as day, so you can figure on a job and know it's right.

Send for information showing how we co-operate to make your business more successful.



**AS EASY TO INSTALL  
AS A HAND PUMP**

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These materials are so much cheaper than wall paper and oil paints, and are so much better than lime wash that every wide-awake builder and owner should investigate them fully, learn which are the most practical, and find out how much they will help to reduce costs.

Calcimines are glutinous compositions intended for decorating ceilings and walls of residences, offices, schools, churches, theatres. The best are called **MURALITE** and **CALCITINE**.

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The best is called **PERMANITE**.

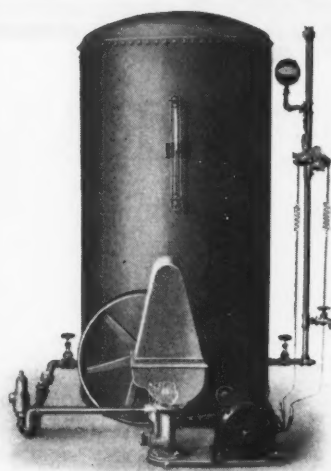
Our products are more practical than any similar ones on the market, and are sure to please you.

Send for descriptive cards and prices

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Manufacturers:

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For pumping from deep wells with electricity the Hoosier System shown will meet the demands of your customers. A self-oiling pump automatically controlled.

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are coated inside with Hoosier Anti-Rust Enamel. This enamel prevents rust and corrosion, lengthens the life of tank, and prevents contamination of water intended for cooking and drinking purposes.

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The above illustration represents a rubber stamp imprint made on Tracing Cloth by the *Stamp-O-Graph Process*.

## Inexpensive—Quick—Effective

Enables Lettering, Designs and Standard Details to be stamped permanently on either Tracing Cloth or Tracing Paper—saves time, labor, and supplies a much needed want.

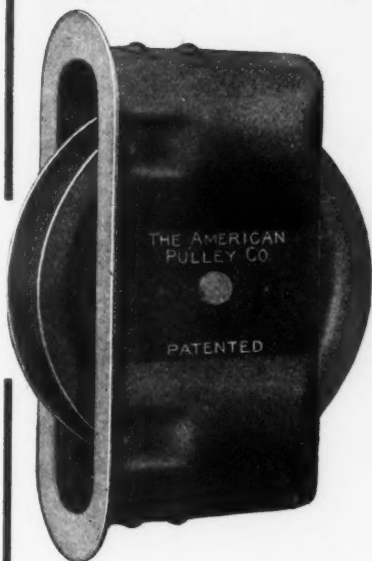
The results produced are *jet black, gasoline proof, smear proof and ready for use, blueprinting perfectly.*

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Branches:  
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## No. 3 "Top Notch"



**American  
Labor  
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Electrically welded wheel and case. Plain axle or Ball Bearing. Other styles and sizes to suit any requirement.

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The cottage or the cathedral built of Nuvoque is PERMANENCE REALIZED. They are fireproof, and, because Artfashioned brick is manufactured in a wide range of soft harmonious colors and textures, they are bound to insure satisfaction to the customers.

Furthermore, it is quite as easy to build with brick as with frame, and a greater profit can be realized with Nuvoque.

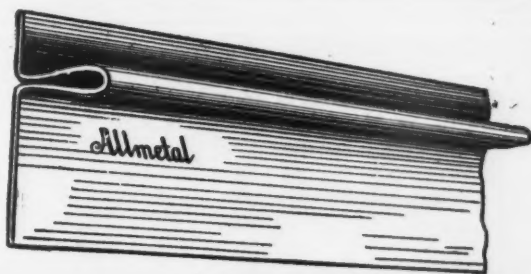
### BUILDERS

We want you to write for information; we want you to compare Nuvoque merits with those of every other building material.

When ordering brick, please deal with our local representative. If there is none, order direct from our factory.

**BOONE BRICK, TILE & PAVING CO.**

Manufacturers Artfashioned Brick  
BOONE, IOWA



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to get in business for yourself.

### ALLMETAL WEATHERSTRIP

is the strip that will produce the business.

**EASY TO SELL**

**EASY TO INSTALL**

**-- BIG PROFITS --**

You can sell nearly every building in your town. People readily grasp this wonderful opportunity to reduce their fuel bill.

Get started now. Write for inside price list to-day.

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Steel Ceilings and Sidewalls

These form neat, substantial, fire-retardant, sanitary Ceilings and Side walls for garages, shops, storage rooms, lofts, basements and similar work.

24 inches wide and 96 inches in length, the end-laps of these plates will center on joists spaced either 12 or 16 inch on center.

The beads on these plates stiffen them sufficiently for nailing direct to joists.

For jobs that do not demand the quality of our standard "Classik" designs these popular priced plates are very effective.

Write nearest Berger Bldg. today for quotations and Circular D-3.

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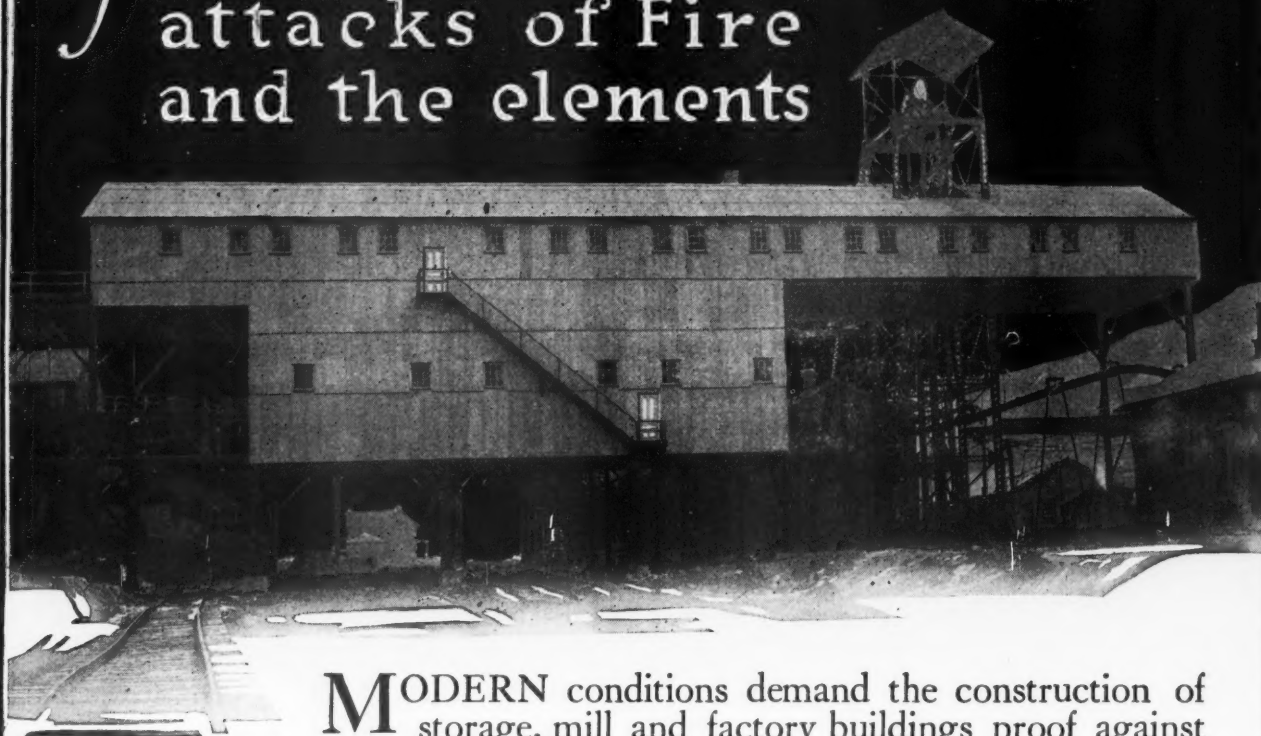
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# BERGER

EXPANDED METAL LATH-FLOOR CORES-REINFORCING PLATES-METAL LUMBER  
STEEL FILING CASES-LOCKERS-FACTORY STORAGE BINS AND SHELVING  
STEEL CEILINGS-ROOFING-SIDING AND OTHER PRESSED STEEL PRODUCTS

# An Armor against the attacks of Fire and the elements



**M**ODERN conditions demand the construction of storage, mill and factory buildings proof against destruction by fire and deterioration through the action of the elements.

When AMBLER ASBESTOS CORRUGATED ROOFING AND SIDING are specified, these vital requirements are met.

Made of the best Portland cement, strengthened with long, strong, Asbestos fibre, it forms a building material ideal for protection against fire and the elements.

More durable than iron as it will not rust, split, curl or break.

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Better than wood or iron as it is not affected by changes in climatic conditions from within or without, requires no painting, improves with age and is absolutely fire-proof, water-proof, wind-proof and a non-conductor of electricity.

Practically indestructible.

## A Better Skylight

We advise the use of our ASBESTOS CORRUGATED WIRED GLASS for SKYLIGHTS.

Easily applied as the corrugations exactly fit the corrugations of Ambler Corrugated Roofing and Siding.

Economical because no frame work is required nor special labor.

Leakless because of the method of overlapping.

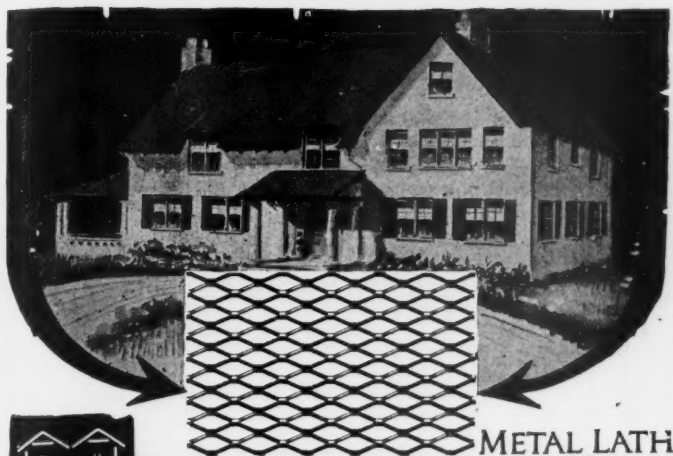
Permanent because there are no joints opposed to the slant of the roof that in other skylights form pockets or warp and allow the water to seep through.

*Write today for the full story, with pictures and prices.*

**Keasbey & Mattison Company, Dept. B-1 Ambler, Pa., U. S. A.**

Manufacturers of Ambler Asbestos Shingles, Asbestos Corrugated Roofing and Siding, 85% Magnesia Pipe and Boiler Covering and Asbestos Building Lumber.



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Because Metal Lasts

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Dealers and Contractors can help the big building movement that is under way by suggesting stucco construction over Sykes Metal Lath. Select your prospects, go to them with a concrete proposition, and see how interested they'll be! Sykes Metal Lath is best either for new construction or for overcoating an old house—requires no furring strips—heavy—cannot be applied wrong—produces a strong, rigid wall.

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## Big Little Profit Builders

*Kees  
Money  
making  
Devices  
for  
Hardware  
and  
Building  
Material  
Dealers*

**Kees**

### Drop Siding Clips

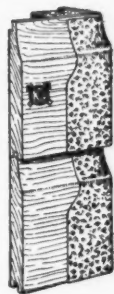
for around the casings; makes careful cutting unnecessary—ends need not be squared; weatherproof joint not affected by later swelling or shrinking of lumber. Make a substantial looking job. Pierced with nail holes. Quick and easy to put on.



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Send for  
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Free Samples  
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**KEES Corners and KEES Clips Fit Accurately.**

Made of tight-coated galvanized iron specially treated to hold paint. Also made for lap siding and shingles. Ask your hardware and lumber dealers. Or write us.

**F.D. Kees Mfg. Co. Beatrice, Nebr.**

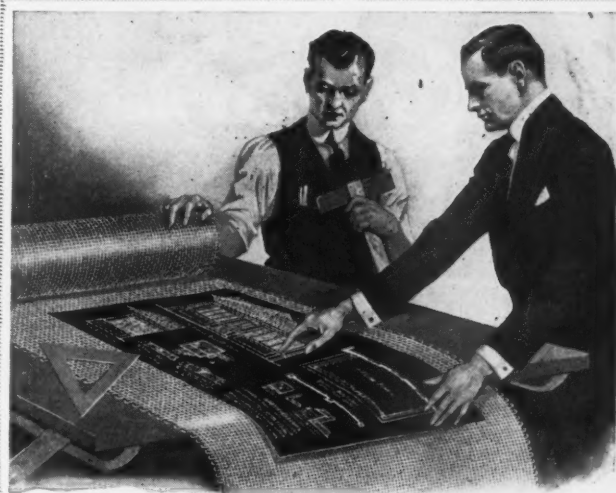
## Whitney Windows Solve Your Window Problems

**THEY** save time in estimating and installing—please your customers and increase your business. Tight-fitting, stormproof, easy to operate or clean; they permit wide unobstructed openings, full ventilation and add to the beauty of any style of architecture. Do not interfere with screens or drapery.

Furnished complete, including frames, sash and patented hardware, factory fitted, ready to be set into the openings.

Our new illustrated catalog tells you all about them and quotes prices. Write on your letterhead for special proposition to contractors.

**Whitney Window Corporation**  
1420 E. Franklin Ave., Minneapolis, Minn.



## FIVE REASONS WHY

**PEARL WIRE CLOTH** should be specified for all porch and window screening. **IT IS MOST**

**DURABLE ECONONICAL  
HANDSOME SANITARY &  
EASIEST ON THE EYES**

Look for the two copper wires in the selvage and our round tag on every roll of the genuine  
Address Dept. "A"

**The Gilbert & Bennett Mfg. Co.**  
New York Georgetown, Conn. Chicago Kansas City

G & B PEARL is made in two weights—regular and extra heavy. The best hardware dealer in your city sells "PEARL"

**RO-SAN Indoor Closet**

The original chemical closet. More comfortable, healthful, convenient. Takes the place of all outdoor toilets, where germs breed. Be ready for the long, cold winter. Have a warm, sanitary, comfortable, odorless toilet right in the house anywhere you want it. Don't go out in the cold. A boon to invalids.

**GUARANTEED ODORLESS**

The germs are killed by a chemical in water in the container. Empty once a month as easy as ashes. Closet guaranteed. Thirty days' trial. Ask for catalog and price.

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Ask about Ro-San Washstand—Hot and Cold Running Water Without Plumbing.

This ad running all over the country. Cash in on it.

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We have a good proposition for one **CARPENTER** in each town.

Use your spare time this winter making good profits.

Write today for terms and territory.



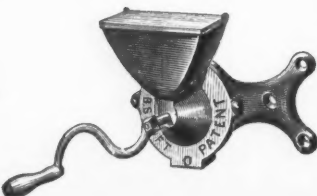
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32 Styles Hand Power  
7 Styles Electric Power

Get Complete Catalog

**LANE BROS. COMPANY**

Carroll Street  
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Close-Grain  
Mar-Proof



High-Class  
Low-Cost

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There are a set of "beautiful birch" panels (all in different finishes) and a birch book ready for you. Write today for them. Our advertisements are telling millions to use "beautiful birch" for trim, doors, floors and furniture. And many are doing so.

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And it is the duty of every good mechanic to equip himself with one.

They are made of high-grade steel, carefully tempered, with points accurately cupped, and thoroughly tested before leaving factory.

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is square and cannot roll away and be lost; it costs 15c; the round costs 12c.

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A REPUTATION

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There's the story of a Caldwell Tubular Tower.

It is so simple that you can erect it yourself. It is so strong that it will endure cyclones and tornadoes. It conforms strictly with approved engineering principles. The cost is moderate.

If you want these qualities in a tower, equip yourself with a Caldwell Tubular.

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## Great Bell PIPELESS FURNACE

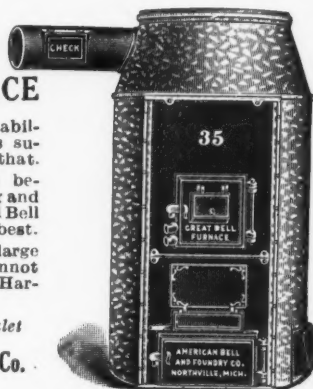
For big value and heating ability the GREAT BELL is supreme. Its popularity proves that.

Install pipeless furnaces because they save cost of piping and installation. And then install Bell Furnaces because they're best.

Where the building is too large for pipeless heating you cannot do better than install our Harmon Furnace.

Reasons Why in Our Booklet

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Northville, Mich.



## HOPSON METAL CEILINGS

Tasty, dignified designs characterize Hopson Metal Ceilings and sides. They're all easy to match and install.

Our pictorial catalog will show you what we have to offer in original designs.

Get a copy today.

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Heat that home—store—school or church with a

## Modern Way Pipeless Furnace

FULLY GUARANTEED  
THOUSANDS IN USE

Manufactured by  
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Fort Wayne, Ind.

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## Crex Columns

Overcome all the objections to the old style wood columns. They are fire-proof, occupy much less space than a wood column, interfere less with light and with circulation of air, are neater, more sanitary, up-to-date in appearance, costing less in the long run than wood.

The Crex Column consists of a steel shell filled with the highest grade of concrete.

Especial care is taken in filling these columns so that the concrete filling shall be perfectly solid and uniform throughout. A special formula is used and the filling is done under hydraulic pressure.

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*"The Building Board  
of a Thousand Uses  
—inside and out"*

Insulation, plaster base, wall board, etc.

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Subsidiary of Minnesota and Ontario Paper Co.

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Pat. Pend.

For use in all classes of new work. Box frames unnecessary.

Mortises cut at mill reduces cost of installing.

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Cheapest method for modernizing old window, as alterations in sashes and frames are not necessary.

Sashes should be weighed before ordering.

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OF

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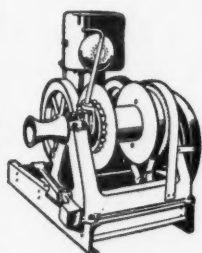
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Copper Nails, Copper Rivets, Conductor Pipe, Eaves Troughs, Elbows, Shoes, Mitres, Soldering Coppers, Gaskets, Etc.

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Type A Single Drum

Are made to satisfy the needs of every contractor. Single, Double or Reversible Hoists to fill each demand. Their extreme simplicity makes for excellent service and cuts the costs of repairs and upkeep to practically nothing.

You will find in O. K. Hoists the quality that up-to-date contractors demand. Send for our catalog. It describes our complete line of hoists.

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On Sale Everywhere

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New York  
Windsor, Can.

1853



1919

Pine Beveled Edge  
Shank and Socket

## Chisels



**Tang and Socket  
Butt Chisels**

Plain and Beveled Edges

Send for illustrated Catalog

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Surely workmen whose time is so valuable now, cannot afford to waste time for the want of efficient tools.

**I Should Say Not!**

The "Interlox Master Slide Rule" makes the drudgery of taking difficult inside and outside measurements a pleasure. It calculates all measurements mechanically, and can be read at a glance. It is made in 2 to 8 feet lengths, of the finest box-wood, with waterproof lacquer, and with solid brass trimmings. If your dealer does not have them, send us 20c per lineal foot and we will send you one promptly.

**Master Rule Mfg. Co., Inc.**

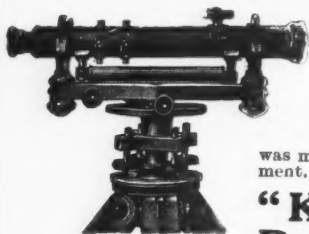
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841 E. 136 Street, New York City



**"There It Is!"**





## As this LEVEL

was made to meet your especial requirement, it should be worth investigating.

### "KOLESCH" Builders' Level

Light in weight, built for hard usage and reasonable in price

The purchase of a "Kolesch" Transit or Level isn't an expense—it's an investment that pays big.

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will surface right up to the wall or baseboard without the use of Edge Roller. Just the machine you would want for surfacing all kinds of wood floors, whether old or new. Will smooth down rapidly and easily all joints or warped edges. Perfect results guaranteed. More than 20,000 of our machines now in use. Guaranteed against defect in material and workmanship for five years.

Send for our Free Trial Offer. It will interest you.

M. L. Schlueter

222 W. Illinois St., Chicago, Ill.

Made in several sizes

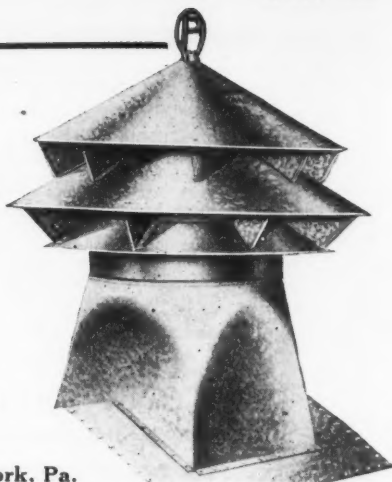
## Pullman Roof Ventilators

Exhaust all foul air from Barns, Factories, Schools, Churches, etc. Very Efficient.

Write for Catalog.

Pullman Ventilator and Manufacturing Co.

West York Avenue, York, Pa.



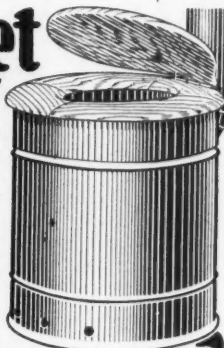
## Indoor Toilet Convenient — Sanitary

The Comfort Closet for Homes, Factories, Schools, Churches, Hotels, Summer Cottages and Camps. Entirely odorless. Scientifically ventilated. Strong chemicals dissolve contents; kills all germs. Easily installed. Convenient to move. Contents disposed of easily as garbage. Prevents water contamination and fly breeding. Provides sanitary, odorless toilet in home protected from cold and stormy weather. Only closet with porcelain container. Easily cleaned. Won't corrode. Approved by U. S. Health Bureau and State Boards of Health. 30 days' free trial. Satisfaction guaranteed.

Carpenter and Contractor-Representatives wanted. Excellent opportunity to increase your income installing Comfort Closets. Sells readily when advantages are explained. Agents make \$60 to \$100 weekly. Exclusive territory. Ask for illustrated booklet—FREE.

COMFORT CHEMICAL CLOSET CO.

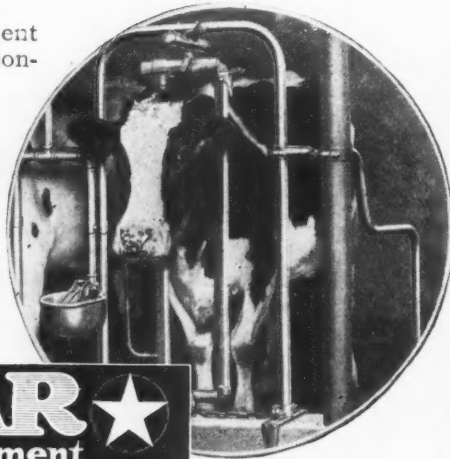
307 Factories Building, Toledo, Ohio



STAR equipment keeps cows contented and owners satisfied. Easier to put in—saves time and work.

Write for the STAR Barn Book.

HUNT, HELM, FERRIS & CO.  
Harvard, Ill. Albany, N.Y.



**STAR** ★  
Equipment

## "STRICKLER"

HAY TOOLS  
and Sanitary  
BARN  
EQUIPMENT



Steel Stalls, Cow Stanchions, Litter Carriers, Feed Carriers, Watering Bowls. Every modern barn should be equipped with Strickler goods. All Carpenters and Contractors should send for our FREE CATALOG and Builder's Proposition. Write Today.

STRICKLER HAY TOOL CO., Janesville, Wis.



Pays for itself on the First Job

### The Pearson Automatic Shingle Nailer

Do your nailing fast—faster than ever before. You can use this Pearson's Nailer on any pitch roof. Wear mittens, gloves, etc. This "Hand Nailer" is the only Nailer—throw nails in by the handful—then start nailing. Nails easily driven through tin or quite heavy sheet iron. These nailers are made in two sizes—The BLUE Nailer for 3d, common No. 14 gauge wire nails.

The RED Nailer for 3d galvanized No. 13 gauge 1 1/2-in. wire nails. The regular price is \$7.00 but if you order from this ad. we will send it prepaid parcel post for \$6.00. This offer is liable to be withdrawn, so act now.

PEARSON MFG. CO. - ROBBINSDALE, MINN.

## CHIEF ALL-STEEL CUPOLA

New-improved, scientifically designed ventilating cupola for all buildings. Up-to-date in design, material and construction. Used and approved on hundreds of farms. Made of heavily galvanized steel with base strongly braced. Can't rust, rot, or blow off. Absolutely storm-proof and bird's-nest proof.

Easy to Install—Sure to Please Your Customers

Chief Cupola saves time and labor installing—base bolts directly to roof and cupola bolts to the base. Only six bolts needed. Meets all requirements—insures adequate ventilation—satisfies all users. Write for full description, prices, etc.

Shrauger & Johnson Co.

430 Walnut Street, Atlantic, Iowa



"We made the tools, and made them well.  
That finished the roads, that hauled the shells.  
That shot the kaiser plumb to . . . ? well  
Even if you knew you would at tell, But say : :

## A WAR LESSON FOR PEACE-TIMES



War has taught us to  
save: To get the most out  
of things:  
To do things that have  
most in them.  
That's a great lesson  
for Peace-Times, as  
well as War-Times.

### Get Things That Have Most In Them

That's why your Government got "Abram Double-Action" Cement Finishing Tools for the "Yanks" to use in "Paving the way to Berlin." They had most in them. They could get most out of them.

That's the best reason why you should do as your "Uncle Sam" did, Buy "Abram."

Long-handled Double-Action Cement Finishing Tools.  
Prices same as before the war. Circular Free for the asking Write today.  
ABRAM CEMENT TOOL CO., Marquette Bldg., Detroit, Mich.

# MIDLAND TERRA COTTA

Quality and Service  
Our Motto

MIDLAND TERRA COTTA CO.  
Lumber Exchange CHICAGO

## "SIGNED LUMBER IS SAFE LUMBER"

FOR BEST LUMBER  
INSIST ON TRADE-MARKED "TIDE-WATER"

# CYPRESS

LUMBER—BECAUSE IT'S "THE  
GENUINE WOOD ETERNAL"  
AND LASTS—AND LASTS—AND LASTS—AND LASTS

Look for this on every board—

Accept no Cypress without this mark.



## Furnish The Best

The farmer knows that contented cows insure bigger profits; they give more and better milk when housed in comfortable ventilated barns.

### Badger Cupolas

satisfy because they do what a cupola should do—ventilate. They're strong, handsome, durable and highly efficient. Light in weight and shipped complete ready to erect. No need to build framing of any kind. Made of high grade galvanized steel—rain, rust and snow-proof. Screened to exclude birds.

Write for free catalog and prices.

Badger Corrugating Co.  
La Crosse, Wis.

## PARAMOUNT MORTAR COLORS "WILL NEVER FADE"

- (1) If you give them a square deal at the mixing box.
- (2) Send us your order for Red, Brown, Chocolate, Buff or Black.
- (3) Follow our instructions.

RESULTS: Pleased contractor, owner, dealer.

THE LOOKOUT PAINT MFG. CO.  
VOLUNTEER BLDG.  
CHATTANOOGA - - - TENNESSEE

## ONE MAN CAN RUN IT



### The Little Whirlwind Concrete Mixer THE MASTER MIXER

From Factory to You—Save 40%

Only real practical small mixer producing same perfect work as most expensive big machine. Complete with hand and power drive. A winner for the contractor or cement worker. All steel and iron. Just like the big \$500 mixers, only simpler. Just the size you need at a price you'd like to pay. Does your work in one-fifth time.

### The Whirlwind Way Makes Mixing Pay

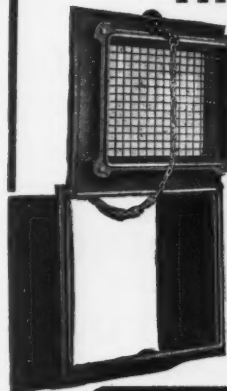
Saves its cost on one job. Capacity about 3 cubic ft. Mixes a batch a minute. Does PERFECT work, wet or dry, empties clean. Discharges direct to forms, cuts out the wheeling and backache. Satisfaction guaranteed or your MONEY BACK. Reference: Any La Crosse bank or Dun Agency. Write for circular or order direct from this adv. and avoid delays.

The Little Whirlwind Mixer Co.  
432 Gould Street La Crosse, Wisconsin

Patents Pending  
Only \$60.00

## 8 MEN CAN'T STICK IT

## THE "BEST" ADVICE



Remember, Mr. Contractor, to specify and install the "BEST" coal chute in your contracts; it will be sure to satisfy your customers, and its profit will satisfy yourself.

### CONSTRUCTION

The chute is cast from the finest quality of iron, and can be had with either wire-glass or solid cast-iron door; it is neat and convenient, fire and burglar proof, and automatically locks whether open or closed.

Write today for Catalog

Sterling Foundry Company  
8 Avenue A, Sterling, Ill.

## Recommend O K Cupolas

If you want to make more profit—build your reputation and good will, equip the barns you build with O K Cupolas.

O K Cupolas solve the barn ventilation problem. They sell themselves. Are made of heavy galvanized steel; bird, storm, rot and rust proof. Neat in appearance. Are easy to erect—shipped ready to install. Every one you put on adds to your reputation.

Special prices to builders and contractors where we are not represented. Write for full particulars.

Phillip Bernard Co.  
2402 Floyd Ave., Sioux City, Ia.





## THE H. B. IVES CO.

NEW HAVEN, CONN., U. S. A.  
ESTABLISHED 1876 MANUFACTURERS OF INCORPORATED 1900  
**BUILDERS' HARDWARE**  
HIGH GRADE WINDOW AND DOOR SPECIALTIES  
Write for Illustrated Folder

For the outer covering of a building no other wood gives such long and satisfactory service as

## WHITE PINE



## White's ADZE

Did you ever use them? You would never use any other if you had. Get our catalogue.

We have had 82 years' experience

**The L. & I. J. WHITE CO.**  
10 Columbus St., Buffalo, N. Y.

## EXCELSIOR WIRE LATH

is woven of steel wires of great tensile strength. The small amount of exposed metal surface permits the plaster to go through to the back and key tightly, making a wall of a solid sheet of stone with a rigid steel core, a fire retarding wall—itself unburnable. When properly put up, rust and disintegration cannot take place. A strong, even selvage permits easy handling and tying.

Write for Booklet

**WRIGHT WIRE COMPANY**  
Excelsior Wire Products Worcester, Mass.

## CARPENTERS

In these days of close competition need the best possible equipment, and this they can have in

### Barnes' Hand and Foot Power Machinery

Our new foot and hand power Circular Saw No. 4, the strongest, most powerful and in every way the best machine of its kind ever made. For ripping, cross cutting, boring and grooving.

SEND FOR OUR NEW CATALOGUE

**W. F. & John Barnes Co.**  
74 RUBY ST. ROCKFORD, ILL.



## YOUR NEW BUILDING Should Be Equipped With A WARNER ELEVATOR

We Build All Kinds of Elevators.

Hand Elevators—Power Elevators—Electric Elevators for Passengers and Freight Service—Automatic Push Button Elevators for Private Residence and Hospitals—Hand Power Elevators and Dumb Waiters—All Sizes and Capacities—Automobile Elevators—Ash Hoists—Cellar Hoists.

Write for Catalog and Prices

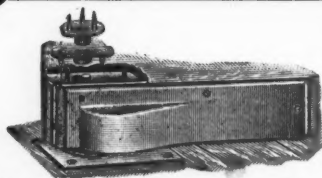
**The Warner Elevator Mfg. Co.**  
CINCINNATI

## Carpenters Double Your Income!

START today towards bigger profits. Don't continue to slave along on a small salary. Many carpenters, just like yourself, are increasing their earnings 100% every day. They are moving houses instead of wrecking them. Give yourself the same chance with a set of

### LA PLANT-CHOATE HOUSE-MOVING TRUCKS

and our complete equipment. There is plenty of work—the house-moving contracting business is growing rapidly every day. To prove this we offer the outfit FREE for 30 days. Get it and see for yourself the amount of work in your locality for the man who is prepared. Experience not necessary. Small investment—big profits. We help you start. Write today for special Free Trial and complete information. Ask for catalog "B." E. W. LA PLANT, President, LA PLANT-CHOATE MANUFACTURING CO., 620 Eastlack Court Cedar Rapids, Iowa  
FREE—Successful House-Moving Contractor—Helpful, practical, interesting magazine on house-moving. Send for it now.



## The "Shelby CHIEF" Floor Hinge WITH IMPROVED PIVOT AND SOCKET

The installation of the Shelby Chief greatly simplified. Mortising for pivot and socket entirely eliminated. To install bore a 1 1/2-inch hole 1/4-inch deep in top jamb for rim of pivot and 1 1/2-inch in top of door for socket. Secure with wood screws, allowing the thickness of metal of socket for clearance between door and top jamb. Insist upon having genuine Shelby Chief Hinges.  
**THE SHELBY SPRING HINGE CO.** SHELBY, OHIO

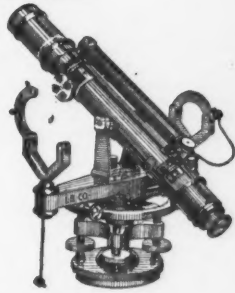


## The One Best "Buy"

is a Beckmann Building Instrument. Most lastingly dependable—made for maximum of perfect service.

Write for FREE Catalog

**The L. Beckmann Co.**  
500 Adams St. Toledo, Ohio



No. 406

**WHY** not use the particular size, shape and grade of pencil or crayon suited to your work? You will find it among

## Dixon's Pencils

Send us the name of your dealer from whom you purchase pencils and crayons together with sixteen cents (\$0.16) in stamps and we will send our liberal sample assortment No. 183-J, as illustrated.

Made in Jersey City, N. J. by the

Joseph Dixon Crucible Co.



## TRANSITS—LEVELS

Write for Our Complete Bulletin on Builders' Levels

**A Few Second Hand High Grade Instruments For Sale**

Save time on Repairs by Using Our Chicago Service and Repair Shops

**BUFF AND BUFF MFG. CO.**

1737 Monadnock Block : : : CHICAGO, ILL.

## Bovee's Compound Radiator Furnace

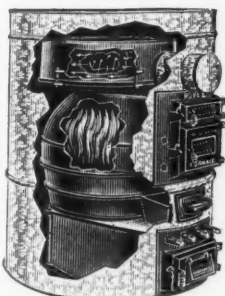
**A REAL FURNACE**  
Sold at Manufacturer's Prices

Thousands in use. Twenty-five years on the market. Burns any fuel. Double the heating capacity from fuel consumed.

Furnished with Pipeless fittings when desired. Made in five sizes suitable for a cottage to a church.

Write us for full description and prices.

**BOVEE FURNACE WORKS**  
50 W. 8th Street Waterloo, Iowa



## Paint DEVOE Paint

Guarantee formula on every can



**DEVOE & RAYNOLDS CO., Inc.**  
New York—Chicago

## "SLATES OF QUALITY"

MOTTLED GREEN AND PURPLE—WEATHERING GREEN  
UNFADING GREEN—MAMMOTH VEIN POULTNEY SEA GREEN  
GENUINE BANGOR FROM OUR CELEBRATED BANGOR UNION QUARRY  
BLACKBOARDS—STRUCTURAL SLATE  
SLATER'S TOOLS—MACHINES & SUPPLIES

We furnish "SLATES OF QUALITY" in random widths, graduated thicknesses and in one or varied colors. SEE SWEET'S CATALOGUE.

**THE AULD & CONGER CO.**

ESTABLISHED 1870.

We publish a handy book "THE SLATE ROOFER"

CLEVELAND, O.

## ARCHER MIXER

The Machine of the original end-discharge

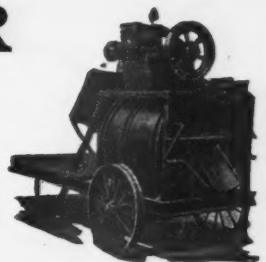
The ARCHER delivers wet mix direct into forms. No wheelers needed. Is moved anywhere by one or two men. Works faster—mixes better—has long life.

With an ARCHER MIXER you save enough on the first job, to pay for it—the rest is all velvet.

Made in two sizes—One bag and Half bag.

SEND FOR FREE CATALOG.

**ARCHER IRON WORKS,** 2437 W. 34th Place CHICAGO, ILL.



## Scarcity of Building Materials

makes it imperative that economy be employed in designing and building. You can make use of the attic without building a stairway into the house if you specify

## The Bessler Movable Stairway



Stairway Folded up in Ceiling

This stairway is always ready for use. Folds up into ceiling—out of the way—when not needed. Occupies no floor space in lower room when not in use. A child can operate it.

**The Bessler Movable Stairway Company**  
Akron Ohio

## A Business Maker

Contractors, supply salesmen and specialty men—here is a chance to establish a business in selling the popular

### HERO PIPELESS FURNACE

Has more selling points, sells easier than any other. Ask us for the exclusive advantages of the Hero. Good territory still open. We help you start.

**HERO FURNACE COMPANY**  
59 West Lake Street CHICAGO



## Protect Your

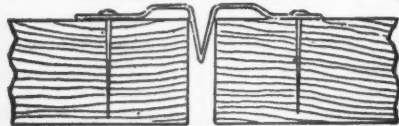
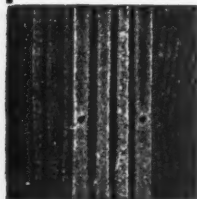
barns and buildings from weather and vermin. Line your grain bins or wagon boxes with

### METALLIC BATTEN STRIPS

They allow for expansion and contraction of siding 5, 6, 7, 8, 9 and 10 foot lengths—interlocking joints. Easily cut; no waste. Nailed directly to siding.

Write for free sample

**Metallic Batten Company**  
Owensville, Indiana



End View Showing Batten Open.—Pat.



We will send you  
this machine for 10  
days' FREE TRIAL.  
If you don't like it  
ship it back.

Write  
for Our  
Prices  
and  
Special  
Offer

**Fox  
Supply  
Co.**  
Brooklyn,  
Wis.

## Northern Hardwoods

All Grades and All Thicknesses

**Birch**

**Maple**

**Elm**

**Basswood**

Elegant, dry stock; prompt service

*Inquiries Solicited from Retail Lumbermen*

**FOSTER LUMBER CO., Tomahawk, Wis.**

## It's Now Known as the Griffith Master

**Builder** But the design, quality and workmanship which for years made it noted, under the name "Germantown Master Builder", remain the same.

Octagon shaped handle of second-growth hickory, ideal hardness, and a claw that will grip all size nails with a grip that holds. Three sizes: 11 oz., 16 oz. and 20 oz., at \$2.00 each. Expert workmen the country 'round know this hammer as "the best that money can buy".



**Griffith Tool Works**  
Philadelphia, Penna.  
Branch: 62 E. Lake St., Chicago



## Install Weather Strip Yourself

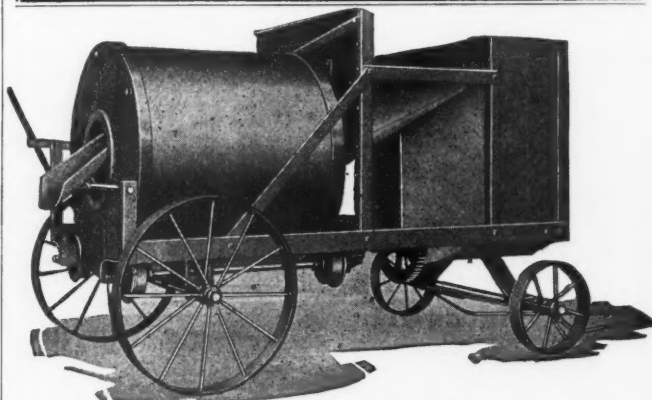
**WEATHER** Strip can be sold every month in the year—in all kinds and conditions of buildings—private homes, stores, schools, hospitals, churches, theatres—they all need Weather Strip. We sell to the retailer; we do no installing ourselves.

Write for Price List and Samples

**GEORGE ANGELL COMPANY**

400 Penobscot Building

DETROIT, MICH.



When in the market for Concrete Mixer, don't overlook our full line of All-purpose mixers. The HANDY batch and BOLTE continuous mixers have the advantage of being labor savers and profit makers for their users. In this line you will find just the mixer you need and at the price you can afford to pay. For further information and prices, address

**The BOLTE MFG. CO., First Avenue, Kearney, Nebr.**

(Copyrighted, 1918 A. E., Chappell)

**THE WAYVELL CHAPPELL AUTOMATIC BALL BEARING ELECTRIC FLOOR SURFACING MACHINE** is what you need to finish your new or old wood floors quickly and just the way you want them.

Patented roller eliminates vibration, also reaches all baseboards, doing away with unsatisfactory work of narrow edge roller. Four sizes—for the largest areas or the smallest rooms. Built to last.

The **LITTLE AUTOMATIC ELECTRIC SURFACING MACHINE** (on desk) is a wonder for removing varnish from desk tops, counters, etc., or for new work.

Write for folders. Accept our free trial offer

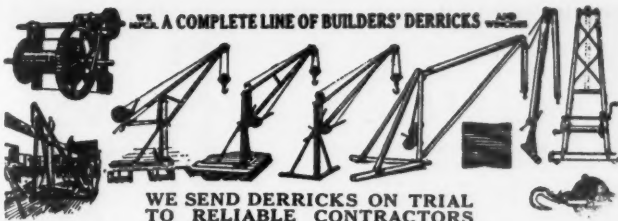
Manufactured by  
**Wayvell Chappell  
& Company**  
408 W. Grand Ave.  
Dept. D, Chicago, Ill.



1912-1916



Pat. 1916



WE SEND DERRICKS ON TRIAL  
TO RELIABLE CONTRACTORS

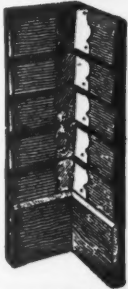
### Our Motto is SATISFACTION or DERRICK RETURNED

Write for circular No. 2 with illustrations, descriptions and best prices on our complete line. The Sasgen Builders' Derricks are built of best Crucible Steel and Malleable Iron Fittings, which makes them light, strong, safe and durable. The derricks will please you and probably more than pay for themselves on the first job. Get one on trial.

**SASGEN DERRICK CO.,** 3101-3125 W. GRAND AVE.  
CHICAGO, ILL.  
NEW YORK OFFICE—GRAND CENTRAL TERMINAL

### Chief Metal Building Corners

Warp-Proof—Rust-Proof—Fit Anywhere



They make a corner with the smoothness and neat appearance of a "mitred corner" and save the time and labor of beveling down the siding. Made of heavy galvanized steel. Fit any corner—inside or outside and make a smooth corner that does not hold dust or moisture. Cannot warp or split, and prevents warping of the siding.

Chief Corners protect buildings from injury and are practically indestructible. Furnished ready perforated for nailing to the siding. Put on easily and quickly. Can be painted any color or left unpainted as desired.

Write for free sample and full information

**SHRAUGER & JOHNSON** :-: 430 Walnut St.  
ATLANTIC, IOWA

### VENTILATION

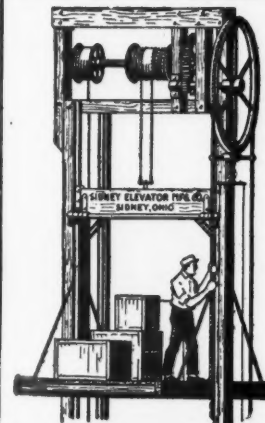
Ventilation by the ROYAL SYSTEM is the only true scientific and economical ventilating system in use. So why use inferior ventilators.



# EFFICIENCY

ROYALS draw the impure air upward and outward from all parts of the building. They are designed to do this. The process of exhausting foul air and substituting pure air goes on without interruption day and night. No wind, rain, sleet or snow can enter the building through the ROYAL. A constant circulation is maintained.

Our catalog gives all details. Write for it.  
**ROYAL VENTILATOR COMPANY**  
417 Locust St., Philadelphia, Pa.



### SIDNEY ELEVATORS

Will reduce your handling expense, and speed up your work.

Our machines are easily installed from our complete plans and instructions which are sent with each elevator.

#### The Reasonable Cost Will Interest You

Write us today, stating requirements, giving style of machine wanted, size of platform and number of feet travel, and we will quote a money saving price on equipment to serve you well.

**SIDNEY ELEVATOR MFG. WORKS**  
SIDNEY, OHIO

## ROOFING SLATE

**G. F. T.**  
Roofing Slate  
Everlasting—Beautiful

The roofing whose first cost is the only cost and that retains its superb richness of color as long as the building stands. Genuine Franklin Tunnel Slate is absolutely Fire-proof. Water-proof and Decay-proof. Free Samples and Prices on request.



**Slatington Slate Co.**  
Slatington, Pa.

## We Have Some Excellent Territory Still Open

and a good agency proposition for the largest and most complete line of Order-Made

### Window and Door SCREENS

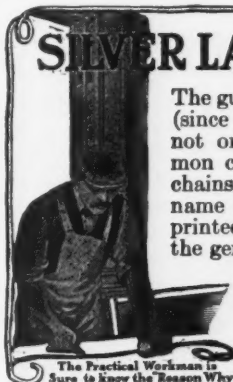
on the market. We supply you with a complete agent's outfit, consisting of models, contract blanks, advertising matter, etc. We give exclusive agencies to ones who make good. No regular agencies established in towns less than 10,000 population. This is a splendid opportunity for carpenters, contractors, builders and material dealers. Write now—address

**STANDARD SCREEN COMPANY**  
1848-58 Hastings Street, Chicago, Illinois

### SILVER LAKE A Sash Cord

The guaranteed sash cord (since 1869 the standard) not only outwears common cords, but outwears chains and ribbons. The name Silver Lake A is printed on every foot of the genuine. Guaranteed full lengths.

**Silver Lake Co.**  
Newtonville, Mass.



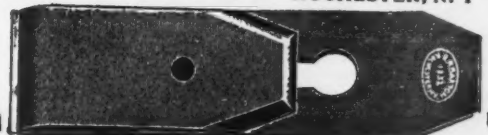
The Practical Workman is Sure to know the Reason Why

G. H. BARTON  
1832  
ROCHESTER N. Y.

## BARTON TOOLS

The steel capped double plane iron illustrated is one of the celebrated Barton Tools. For many years these tools have been known for their unequalled, keen, hard, smooth-cutting edges. Barton Tools last a lifetime and give satisfaction to the end. Ask your dealer to show you our tools or send direct for catalogs and free story book—True Stories. Specify "Carpenters Catalog."

**MACK & COMPANY** 100 BROWNS RACE  
ROCHESTER, N. Y.







We can offer something **SPECIAL** in the way of **PRICE**. Write for catalog and particulars.

## "A Bit of Utility"

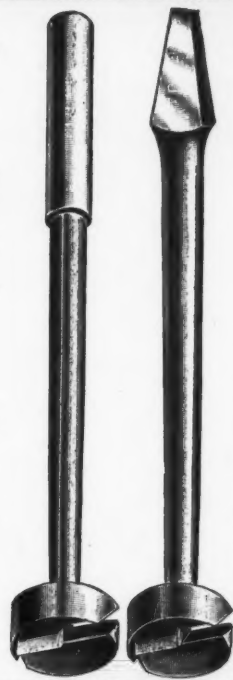
FORSTNER BITS are DIFFERENT from all other wood boring tools. Being guided by the outer rim they may be turned in any direction. The work is left smooth and polished.

### Unequaled for Delicate Work

Practical for use as gouges or chisels, suitable for scalloping, fancy scrolls, twists, columns, newels, ribbon mouldings, mortising, etc.

Cabinet and pattern workers are enthusiastic over them. They do more work and cost no more than other bits.

**The Progressive Mfg. Co.**  
Torrington, Conn.



DO this one thing: apply *Bay State Brick and Cement Coating*—then forget about walls of brick, concrete or stucco.

"Bay State" is not just a temporary remedy, it is a sure cure. It gives a lasting pure white or delightful tint to walls and makes them waterproof, too.



The Bay Stater

The Bay State-Coated home is so bright and cheery you can find it in the dark.

Our Book No. 20 and samples will be gladly sent to you.

**WADSWORTH, HOWLAND & CO., Inc.**  
Paint and Varnish Makers  
Boston, Mass.

New York Office:  
Architects' Bldg.

Philadelphia Office:  
Weightman Bldg.

## Make Your Basements WATER TIGHT

by using Bitu-Mortar Waterproofing Compound. Liquid, for waterproofing cement coatings—powder for waterproofing mass concrete—dampproofing, for interior surfaces of masonry walls. Inexpensive and everlasting. Write for our catalog.

The Bitu-Mortar Waterproofing Co., Inc.



Engineers, Contractors and Manufacturers,  
340-344 East 27th Street New York, N. Y.

**HARD-  
WOOD  
FLOORS**



**PARQUET  
STRIPS**

**ORNAMENTAL PARQUETRY**

All Kinds and Thicknesses. Your Mechanics  
Can Lay It. Send for Colored Catalogue

**WOOD-MOSAIC COMPANY, INC.**  
NEW ALBANY, INDIANA

## HESS MEDICINE SANITARY LOCKER



**The Only Modern, Sanitary  
STEEL Medicine Cabinet**

or locker, finished in snow-white, baked everlasting enamel, inside and out. Beautiful beveled mirror door. Nickel plate brass trimmings. Steel or glass shelves.

### Costs Less Than Wood

Never warps, shrinks nor swells. Dust and vermin proof. Easily cleaned.

Should be in Every Bath Room. Four styles—four sizes. To recess in wall or to hang outside. Send for illustrated circular.

**HESS, 920L Tacoma Bldg.  
CHICAGO**

The Recommended Steel  
Medicine Cabinet

Makers of Steel Furnaces

Free Booklet

# TYPEWRITER SENSATION

**\$3 or \$4** monthly buys a Beautifully Reconstructed Latest-Model Visible Typewriter with back-spacer, decimal tabulator, two-color ribbon, etc. Every late style feature and modern operating convenience. Perfect appearance, perfect action and absolute dependability. Sent anywhere on approval. Catalog and special price FREE.

**HARRY A. SMITH**

**300-218 North Wells Street**

**CHICAGO, ILL.**

# Classified Department

RATES 6 CENTS A WORD. CASH WITH ORDER

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FOR SALE—Established contracting business, full line of machinery and equipment. Plenty of work and good help. C. K. READING, Manchester, Iowa.

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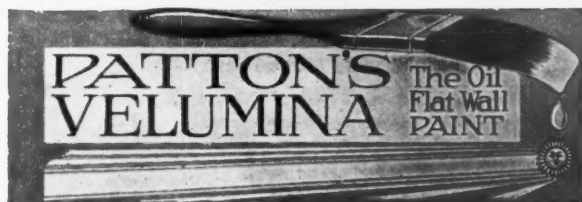
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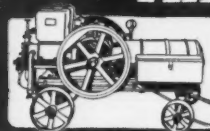


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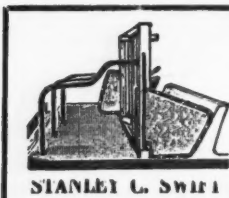
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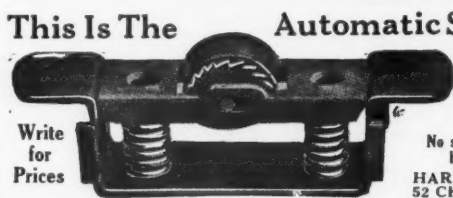
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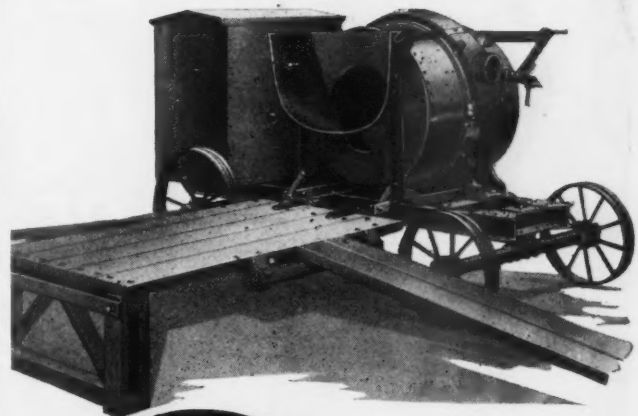
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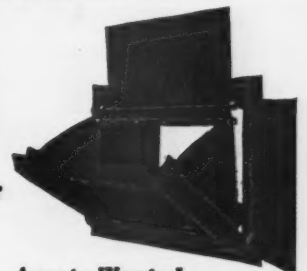
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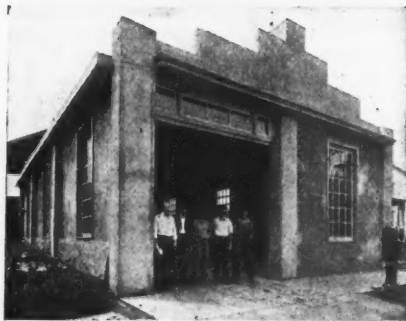
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